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AGRICULTURE

No. 1212

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COOPERATIVE KOLKHOZ OWNERSHIP AT THE PRESENT STAGE OF DEVELOPED SOCIALISM

Moscow EKONOMICHESKAYA GAZETA in Russian No 43, Oct 79 p 15

[Article by Prof R. Tonkonog, Doctor of Economic Sciences]

[Text] The advances and achievements in the building of communism depend decisively on the maturity of public property at the expense of industry, the basis of the economic system of the USSR. The material foundation for refining the relations between socialist property refers to the following: progressive changes in the technical basis of production, introduction of highly efficient machine systems and flow line technology, mass scale use of progressive and economical forms of raw material and materials.

The dialectical link and mutual determination of development of productive forces and industrial relations, as well a s forms of property are vividly manifested at this stage of mature socialism in agriculture. Concurrently, there is a process of refinement of the main productive force of society, the working people, and further development of socialistic industrial relations.

The State and Collective Farms

At this state of developed socialism, there has been significant expansion of the State sector in agriculture, with increase in its transforming influence on development of cooperative kolkhoz property. Creation of branches of industry that arm agriculture with the latest technology, development of agricultural science and introduction of its achievements in kolkhoz and sovkhoz production, formation of a well-developed system of material, technical and communal servicing of kolkhozes, sovkhozes and the rural population, expansion of training and retraining of highly skilled personnel for agriculture--all this and many other elements are an indication of the increasingly active effect of national ownership on development of agriculture. At the July (1978) plenum of the CC CPSU, L. I. Brezhnev stressed the enormous importance to development of agriculture of such new specialized and major branches as water management and reclamation, machine building for the livestock industry and feed production, agricultural construction, the mixed feed and microbiological industry.

The increase in State capital investments in agriculture is indicative of the ever increasing use of the accumulated economic potential of our country to advance kolkhozes and sovkhozes. While capital investments of kolkhozes were 12.7% over the State investments under the Sixth Five-Year Plan, State capital investments in agriculture will be double the kolkhoz investment under the current Five-Year Plan.

In the last few years, there has been a significant increase in number of sovkhozes and other State agricultural enterprises. The number of workers at sovkhozes increased from 8.2 million in 1965 to 11.4 million in 1978. The gross agricultural productof sovkhozes increased accordingly from 20.6 to 45.8 billion rubles. It is also important to mention that the sown areas of sovkhozes are larger than those of kolkhozes.

The State sector of the economy directly or indirectly intercedes in all stages and levels of output of agricultural and livestock products. As it expands and deepens its positions in agriculture, it leads kolkhoz production enhancing in it the features and elements of national ownership. It is stressed in the Constitution of the USSR that "the State aids in development of cooperative kolkhoz ownership [property] and brings it closer to State ownership."

The substantial increase in involvement of the State sector in agriculture has not only a quantitative, but rather important qualitative aspect. Since national (public) ownership is the chief and leading form of socialist ownership, its growth in agriculture signifies a significant elevation of socialization, an increasingly complete manifestation of the national nature of agricultural production.

Interkolkhoz Enterprises

There is distinct manifestation of the chief routes of development of cooperative kolkhoz ownership and of the forms of approximation thereof to national ownership in the socioeconomic practice of developed socialism. They include economic advancement of kolkhozes, development of their productive forces and improvement of interkolkhoz social relations. Development of production ties between kolkhozes, creation and refinement of activities of interkolkhoz enterprises and associations are important.

Indivisible funds are the material basis for development of kolkhozes. In 1978, they constituted 103.7 billion rubles. Indivisible funds are created with the active participation of the national sector of the economy, of the entire Soviet people.

Until recently, the tangible physical composition of indivisible funds of kolkhozes differed substantially from the productive apparatus of sovkhozes. This was manifested by a lower level of technical equipment of kolkhozes, as compared to sovkhozes. At present the situation has changed: the funds and energy resources for kolkhoz labor constitute about two-thirds of their level in sovkhozes.

Intensification and industrialization of all branches of industry, implemented in accordance with the plans, equalization of funds and energy resources of kolkhozes and sovkhozes mean that there is gradual and consistent approximation of the collective kolkhoz sector to the national one in the most essential and important way, i.e., level of development of the material and technical base of agricultural production. This serves as a solid material foundation for augmenting socialization of cooperative production, elimination of differences between the two forms of socialist ownership in agriculture and formation of a standard type of national agricultural enterprise.

There is a qualitatively new form of socialization of agricultural production and approximation of cooperative kolkhoz ownership to national ownership: development of interkolkhoz cooperation, creation of interkolkhoz enterprises and associations.

Growth of interfarm enterprises and organizations

	1970	1975	1978
Number of interfarm enterprises and organizations	4554	6330	8906
Number of participating farms among the above (kolkhozes, sovkhozes and other State and cooperative enterprises and organizations) in thousands	68.5	94.1	137.4

Favorable conditions are created at interkolkhoz enterprises and associations for accelerating industrialization of agriculture, deepening of its specialization and concentration, introduction of scientific organization of labor and farm management. They have a substantial influence on equalizing economic development and income of kolkhozes, as well as improving the well-being of kolkhoz workers. Thereby they embody a higher level of socialization of cooperative kolkhoz ownership; they are a most important and logical element on the road toward bring it closer to national ownership.

Interkolkhoz enterprises and associations do not constitute some new, third form of socialist ownership. They remain within the framework of cooperative kolkhoz ownership and retain its most important socioeconomic features: collective, group appropriation of resources and results of production, implementation of expanded reproduction chiefly at the expense of the farms' own resources, direct and immediate correlation between wages and well-being of workers, on the one hand, and income, on the other.

The link between public ownership and private subsidiary worker farms is also strengthening. At the July plenum of the CC CPSU, L. I. Brezhnev stressed that the private farms of kolkhoz, blue and white collar workers are an important source of replenishment of food resources. A set of measures was developed and is being implemented to assist workers in managing their private farms, to improve organization of purchasing of superfluous agricultural products.

Agroindustrial Integration

The approximation of the two forms of socialist ownership in rural areas is also occuring as a result of expanding production ties between kolkhozes, sovkhozes and other State agricultural enterprises. Kolkhoz-sovkhoz and cooperative State enterprises and associations are being created, in which the same process of expanded reproduction is being deployed.

In these associations, the process of producing agricultural products is taking place under the same management and plans; many production functions and services of utmost importance are being centralized; joint funds are being established for development of production and material incentives for worker groups. Thus, the process of interweaving and interaction of two forms of socialist ownership is strengthened.

At the same time, there is retention in the kolkhoz-sovkhoz and cooperative State associations of relative independence of both the kolkhozes and State enterprises, and the kolkhozes remain as shareholders with equal rights.

It is stressed in the decree of the CC CPSU, "Continued development of specialization and concentration of agricultural production on the basis of interfarm cooperation and agroindustrial integration," that formation of interfarm and agroindustrial enterprises and associations, and the transfer of agriculture to a modern industrial basis constitute a new stage of cooperation.

Development of kolkhoz-cooperative ownership and approximation thereof to national ownership is being accelerated as a result of agroindustrial combined production. Agroindustrial integration intensifies of the process of interaction between the two forms of ownership and, what is particularly important, imparts basically new elements to it. In the agroindustrial associations, kolkhozes, interkolkhoz enterprises and sovkhozes are directly involved in the same process of reproduction, they function on the basis of the same plans and management. The main element in this process is the organizational and economic ties between kolkhozes, sovkhozes and industrial enterprises and the transformations that are occuring in agriculture. It is being transferred faster to an industrial base, its specialization and concentration are deepening, and there is a perceptible increase in qualifications of personnel and effectiveness of production.

Agroindustrial integration is instrumental in speedy equalization of the material and technical base of production, income and well-being of workers in all enterprises involved in such integration. Unfortunately, at the present stage, agroindustrial integration has had a minimal effect on kolkhoz production. Yet, as shown by experience, it is the most desirable to create mixed agroindustrial combines and associations, in which both sovkhozes and kolkhozes would function under the same management.

Thus, at the current stage of developed socialism, cooperative kolkhoz onwership is being raised to a new level. It is consistently coming closer to State ownership; there is a process of formation of the future standard type of national agricultural enterprise. This fulfills the most important planned demand of the Party, to continue on the road toward equalizing material conditions and standard of living in urban and rural areas.

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IMPORTANCE OF IMPROVING MANAGEMENT OF AGRICULTURE IN BELORUSSIA

Minsk SEL'SKAYA GAZETA in Russian 2 Nov 79 p 2

[Article by L. Borovko, lecturer at the Belorussian Institute of the Mechanization of Agriculture, candidate of historical sciences: "A Step Forward, a Step in Place"]

[Text] Sovkhozes, which represent state property in the village, are the highest form of organization of socialist agriculture. They have been called upon to be models of leading, scientifically-based, economically advantageous methods of organizing public production, of a high degree of productivity and of high quality labor.

In showing concern for improving the role of sovkhozes in producing agricultural products, party, soviet and agricultural organs in the republic are doing a great deal to strengthen their material-technical base. During the last 15 years fixed production funds and material floating assets of republic sovkhozes have more than quadrupled. The energy efficiency of sovkhoz production has grown and all labor-inefficient processes have been basically mechanized and automated.

Because of reclamation, chemization and the broad introduction of science and progressive experience there have been noticeable successes in raising the productivity of agricultural crops. Whereas in 1965 sovkhozes produced about 11 quintals of grains, during the Ninth Five-Year Plan the average was about 19 quintals, and in 1978--over 23 quintals.

In the republic's sovkhozes there has been a constant improvement in the organization of labor on the basis of more thorough specialization, concentration and cooperation. Large specialized enterprises have the leading role in the production of milk, meat, eggs, vegetables and other agricultural products. They are managed by eight republic and 19 oblast trusts. For example, each of the specialized enterprises of Belglavskotoprom [Belorussian Main Administration of the Livestock Industry]last year received an average of 370,000 rubles profit. Only one-sixth of land area belongs to dairy-vegetable trusts in the sovkhoz sector, yet they produces 21.4 percent of the milk and 94.1 percent of the vegetables in the oblast.

Internal specialization and production management are constantly improving in sovkhozes. Already about 400 of them have changed over to the branch system of management.

In recent years the profitability of many sovkhozes has grown. Last year already 58 of them received over 1 million rubles of profits. Production associations on poultry farming received from 3.5 to 14 million rubles.

Nevertheless, not all sovkhozes are dealing successfully with the tasks before them. In the republic there are many unprofitable enterprises. Some of them systematically produce small yield of grains, potatoes and other agricultural crops and are not at the necessary level in livestock production. There are many reasons for this. Some sovkhozes were created on the basis of weak kolkhozes. As a rule they have unproductive lands and a shortage of needed technology and manpower. Unfortunately, this is not always considered when distributing material and financial resources. With an average guaranteed fund of 90,000 rubles calculated on the basis of 100 hectares of agricultural lands, there are enterprises for which this indicator is half the average. For this reason some new sovkhozes were not able to strengthen their economy and their volume of production output is increasing slowly.

In the materials of the July 1978 Plenum of the CPSU Central Committee it is emphasized: "The task of improving the use of material and financial assets in sovkhozes and kolkhozes and the growth in the effectiveness of agricultural production under present-day conditions must be made a priority item." One of the ways to raise the return on funds is to improve the quality of production. Sometimes sovkhozes suffer great losses because of its poor quality. Thus, because of the low fat content of its milk the Sovkhoz imeni Timiryazev of Smolevichskiy Rayon in 1977 lost 23 tons and only 69 percent of the cattle sold was in a high nutritive condition. The high degree of barrenness among cows resulted in over 73,000 rubles of losses to the enterprise.

The specifics of sovkhoz production are such that the aid of higher organs is needed constantly in order to solve various organizational problems. Nevertheless, sovkhozes that are subordinate to ispolkom administrations of agriculture experience many difficulties. Let us say that in the agricultural administrations of Minskaya, Vitebskaya, Gomel'skaya and Mogilevskaya oblasts' executive committees there is only one specialist each to work with sovkhozes. Four years ago the BSSR Ministry of Agriculture reorganized the Main Administration of Sovkhozes into the Sovkhoz Administration with a staff of six people. In the year before last it ceased to exist independently altogether and became a department in the Main Administration of Inter-Enterprise Cooperation and Agroindustrial Integration and Sovkhozes. Of course, this number of specialists for the sovkhoz department does not have the capability to thoroughly and specifically study the conditions in each sovkhoz or to work on their future development because they are always overburdened with ongoing work.

The absence of a single centralized management for sovkhozes results in the fact that frequently their specialization is changed unjustifiably and without scientific basis. Over 140 sovkhozes and state farms of the BSSR Ministry of Agriculture changed their subordination during the Ninth Five-Year Plan alone. Some of them changed allegiances 3-4 times in the course of 5-6 years. Thus, the Mozyrskiy Sovkhoz of Mozyrskiy Rayon was at one time changed in subordination from the agricultural administration to the Gomel'skaya Oblast Zagotskotootkorm Trust [Zagotsk Livestock Fattening Trust], in 1972 to the trust of dairy-vegetable sovkhozes and in 1975--to the agricultural administration of the rayon ispolkom. The Utes Sovkhoz of Baranovichskiy Rayon in 1970 moved from subordination to the agricultural administration to the Brestskaya Oblast Trust of Dairy and Vegetable Sovkhozes. Three years later it was again given over to the agricultural administration and at the beginning of this five-year plan it again become subordinate to the aforementioned trust. Frequently reorganization occurs during the most intensive periods of field work. The change in subordination in some cases results in an unjustified change in management leadership. In the Mozyrskiy Sovkhoz there have been 5 directors in the course of 15 years, which undoubtedly had an effect on the development of production.

For this reason in our opinion the increase in the number of specialists occupied in sovkhoz production in the BSSR Ministry of Agriculture is very essential. This can be done by decreasing trust staffs. After all, 20-30 enterprises are subordinate to one trust and so there is over one specialist per enterprise, whereas in the sovkhoz department of the BSSR Ministry of Agriculture, which is supposed to manage the work of trusts as well as of sovkhozes that are not under its control (and there are about 280 of these) there are 6 people.

It must be said that even sovkhozes that are subordinate to trusts experience difficulties due to imperfect management. For example, usually two organs provide them with plans for the sale of agricultural products to the state. Trusts plan the delivery of products in accordance with their specialization, and the agricultural administration of the rayon executive committee--in accordance with other considerations, frequently without a view to the basic orientation of the enterprise.

Sovkhozes which deal in vegetable production frequently find it difficult to sell them. There are many cases in which the transportation equipment that is used by sovkhozes and enlisted organizations remains idle for many hours before being unloaded. This decreases the effectiveness of the use of the equipment as well as the quality of the products. Moreover, some trade enterprises refuse to fulfill their contractual obligations regarding the reception of products. Last year, for example, at the end of August many stores in Minsk did not have vegetables, but the wholesale-retail combinats of Zavodskiy and Frunzenskiy rayons sent back early cabbage that had arrived from suburban sovkhozes. In our opinion the allocation of transportation for trade organizations, including borrowed transport, and the reception of products by them directly in enterprises would have a positive effect on raising the effectiveness of sovkhoz production.

In October of last year the wholesale-retail combinat of Pervomayskiy Rayon of Minsk did not reimburse the Svir' Sovkhoz of Myadel'skiy Rayon for 3,235 kilograms of the total 7,170 kilograms of delivered cabbage for various reasons. There was a similar case in the wholesale-retail combinat of Frunzenskiy Rayon, where the Shipyany Sovkhoz of Smolevichskiy Rayon delivered its cabbage.

Thus, we do not yet have a complete organization of production and management of sovkhozes which are subordinate to specialized trusts. A great deal of work remains to be done here. In other words, our success in supplying the population with foodstuffs and industrial raw materials and in fulfilling the tasks of the 10th Five-Year Plan on the intensification of agriculture and on strengthening its economy depends greatly on improving production organization and management.

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FINANCING OF CAPITAL INVESTMENTS IN AGRICULTURE IN MOLDAVIAN SSR

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 9, Sep 79 pp 57-58

[Article by A. Chemyrtan, chief of the Central Financial Administration of the Ministry of Agriculture for the Moldavian SSR: "Financing of Capital Investments"]

[Text] The July (1978) Plenum of the CPSU Central Committee made the determination that further development of agricultural production in terms of raised rates must be carried out on the basis of steady intensification of such production through an increase in the volumes of capital investments.

The principal source for capital investments is national income in the part used for savings and also the fund for providing reimbursement for material expenditures, in the part used in the form of amortization for the restoration of worn out fixed capital.

That portion of national income used for expanding the reproduction of fixed capital, and also other resources together with their natural-material form and inseparably linked with it, have a value form which is manifested in various monetary sources used for the financing of capital investments.

At the present time, great importance is being attached to long-term State Bank credit in the sphere of financing. It is used at those times when profits and amortization deductions do not cover the expenditures for new construction, modernization or expansion.

As a rule, the modernization and technical re-equipping of sovkhozes, sovkhoz-technical schools and other state agricultural enterprises is carried out first of all using funds available for strengthening and expanding the farms, with bank credit being employed for only a small portion.

One of the principal sources for financing capital investments is that of state budgetary funds, distributed through the republic's budget. These funds are used for financing capital investments for the construction of new production enterprises at those times when the repayment schedule for such facilities exceeds 5 years from the day they are placed in operation and the cost is in excess of 1 million rubles.

In the case of unprofitable or low profitability enterprises which are inadequately equipped with fixed capital, the expenditures for developing production operations (in the absence of internal resources) are financed by means of the state budget -- capital investments of a production nature, increase in the norm for internal working capital, insurance payments, financial losses caused by the operation of housing and municipal services.

Budgetary appropriations also serve as a source for financing the construction of dwellings and projects of a non-productive nature at those times when the sovkhozes lack the internal resources required for such work. During 3 years of the Tenth Five-Year Plan, budgetary appropriations amounting to 99.4 million rubles, or 43.8 percent of the overall volume of capital investments, were allocated to farms within the ministry's system.

In addition to long-term bank credit and budgetary appropriations, another source for the financing of capital investments is the internal resources of enterprises (net surplus, profit from past years and a portion of the profit planned for the current year, amortization deductions, fund for strengthening and expanding the farms, up to 60 percent of the fund for social-cultural measures and housing construction and other resources authorized for use in connection with capital investments). During the 1976-1978 period, the internal resources of farms within the system of the Ministry of Agriculture for the Moldavian SSR amounted to 127.3 million rubles, or 56.2 percent of the overall limit for the financing of capital investments. For the purpose of accumulation for financing a specific construction project, they are subdivided into centralized funds and applied at the site.

The republic's Ministry of Agriculture, based upon existing legislation, centralizes a portion of the net internal resources of sovkhozes, sovkhoz-technical schools and other state agricultural enterprises for the purpose of redistribution and for ensuring the financing of capital investments for those farms having insufficient internal resources.

During the 1976-1978 period, the centralization of a portion of the net surplus of farms enabled the ministry to ensure complete financing for the capital construction projects called for in the plan and to use 218.2 million rubles or 96.3 percent of the plan.

The fund for carrying out capital repair work and the fund for the complete restoration of fixed capital are formed by means of amortization deductions. The sums intended for use in the complete restoration of fixed capital, in the amounts established by a higher organization, are included in the fund for the strengthening and expansion of farms, with the remaining portion serving as a source for the financing of state capital investments. The resources of the amortization fund, used for the financing of capital investments, must in any case be deposited in branches of Gosbank for the financing of internal capital construction or for redistribution in the form of centralized payments for other construction projects the funds for which are insufficient.

The profit taken into account in the financial plan as a source for the carrying out of capital construction and the quarterly distribution of such profit must correspond to the financial plan for the principal activity. The profit is applied within the limits of the amount actually accumulated and yet no more than the planned amounts.

The use of a portion of the profit for financing capital investments definitely tends to strengthen economic accountability, since it causes the volume of construction to become dependent upon the carrying out of tasks associated with production profitability.

The volume of capital investments is determined in constant estimated prices, introduced on 1 January 1969. In the time that has elapsed since that date, a reduction has taken place in the prices for equipment. Thus the savings realized from this reduction in prices is also considered to be an internal source for financing.

The "Principal Trends for Developing the National Economy of the USSR During the 1976-1980 Period" call for an increase in production capabilities to be achieved mainly through the technical re-equipping of farms, equipment modernization and the carrying out of other organizational-technical measures. The principal source for financing such measures is the fund for the strengthening and expansion of farms and to a lesser degree -- by means of long-term bank credit.

Commencing in 1977 and in the interest of raising the effectiveness of capital investments, the total amounts of state capital investments have been approved with no subdivision taking place into centralized or non-centralized funds. The latter are becoming a planned source for financing. They include up to 60 percent of the fund for social-cultural measures and housing construction, which is used for the financing of social-cultural projects and housing. Other sources are also available for the financing of capital investments (savings realized from a reduction in the cost of capital repair work carried out using internal resources, earnings from the sale of fixed capital and the mobilization of internal economic resources).

The mentioned sources are reflected in the plan for the financing of capital investments. The maximum amount of resources required for carrying out the planned volume of capital construction work, perennial plantings and for acquiring the machinery and equipment required for the coming year is established in this plan. In conformity with the sources for financing capital investments, as specified for the year being planned in accordance with the income and expenditure balance, the ministry composes an expense schedule -- a financial plan using Form No. 12, which is subsequently presented to the republic's Ministry of Finances.

The department for which Gosbank received the schedule establishes the financing plans for its subordinate associations and the latter distribute them among the sovkhozes in the form of a financing plan, composed using Form No. 5, and thereafter it is made available to the bank institute which is financing the construction project. Form No. 5 furnishes the financing sources, cited in the second section of the expense schedule.

In conformity with the financing plan, the institutes of Gosbank issue the budgetary funds and accept from the customers those internal resources intended for use in financing construction, for perennial plantings and for acquiring agricultural machinery and equipment.

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RULES FOR INSURING OF SOVKHOZ PROPERTY DISCUSSED

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 9, Sep 79 pp 55-56

[Article by N. Khabashesku, chief of the Main Administration for State Insurance for the Moldavian SSR and N. Golovchenko, Candidate of Economic Sciences and assistant professor at the Kishinev Agricultural Institute: "Insuring of Sovkhoz Property"]

[Text] The operational experience of sovkhozes operating on a complete economical accountability basis has shown that improvements are required in the system employed for the formation and use of the insurance fund. On some farms this fund is too great and on others it fails to even cover the losses which develop. As a rule, the creation of the insurance fund involved the participation mainly of highly profitable farms which covered the losses or other expenditures of low profitability or unprofitable sovkhozes. Moreover, it should be borne in mind that the degree of share participation by highly profitable and low profitability farms in creating the insurance fund varied and that payments into this fund throughout the country were not differentiated. At the same time, the only source for the formation of the insurance fund was profit.

In the kolkhoz-cooperative sector, where the factors associated with natural phenomena are the same, the principles underlying the formation of the insurance funds differ. This makes it possible to create such funds on a larger scale. Thus, during the past 10 years alone, insurance payments were used for covering 15.2 billion rubles worth of losses caused by natural calamities throughout the country as a whole. Thus the kolkhozes were provided with considerable assistance in the carrying out of their financial-economic activities.

In view of the advantages offered by the existing system for insuring the property of kolkhozes, a resolution was adopted during the July (1978) Plenum of the CPSU Central Committee, calling for the introduction on 1 January 1979 of mandatory insurance for the property of sovkhozes and other state agricultural enterprises, in accordance with the same conditions established for the kolkhozes. This means that the following items are subject to insurance at sovkhozes: agricultural crop harvests, with the exception of hay harvests (as a result of droughts, shortage of heat, excessive moisture, drenching, damping, frosts, winterkilling, hail, driving rainfall, storms, hurricanes, flooding, mud-laden torrents, lack of water or shortage of water at irrigation sources and as a result of other meteorological or natural conditions considered to be unusual for the particular region and also in the event of losses or damage caused by diseases, plant pests and fire); agricultural livestock, poultry, rabbits, fur-bearing animals and bee colonies (cattle, sheep and goats more than 6 months of age, hogs more than 4 months of age, horses, camels, mules and jackasses more than 1 year of age, poultry and fur-bearing animals more than 6 months of age, rabbits more more than 4 months of age and bee colonies, as a result of natural calamities, infectious diseases and fire. Animals registered in the state breeding book are also considered to be insured in the event of losses caused by non-infectious diseases and accidents. Animals which have not achieved the above-mentioned ages are insured only in the event of natural calamities and fire); buildings, installations, transport equipment, power, manual and other machines, fishing boats, fishing implements, hardware, products, raw materials, materials and perennial plantings (as a result of flooding, storms, hurricanes, driving rainfall, hailstorms, landslides, mountain slips, the action of subterranean waters, mud-laden torrents, bolts of lightning, earthquakes, settling of soil, fire, explosions and accidents and in the case of perennial plantings -- as a result of droughts, frost and plant pests and diseases.

Buildings, installations and other types of property are also considered to be insured in those instances when, owing to fire or the sudden threat of an impending natural calamity, it becomes necessary to dismantle them or transfer them to a new site.

In the event of the loss of or damage to insured property, the farms are reimbursed as follows: for insured crops -- 50 percent; animals, poultry, rabbits, fur-bearing animals and bee colonies -- 70 percent; buildings, installations and other property -- 100 percent of the total amount of loss.

Various methods are used for determining the damage caused by natural calamities. In particular, for insuring agricultural crop harvests (with the exception of winter and perennial sown grasses) -- the full value of the harvest is used and the computation is carried out based upon the average cropping power for the last 5 years and the actual state procurement prices, calculated for the area occupied at the sovkhoz by all of the crops during the preceeding year and for the insuring of winter crops and perennial sown grasses -- the area occupied by them for the current year's harvest; for insuring agricultural animals, poultry, rabbits, fur-bearing animals and bee colonies -- based upon the full balance (inventory) value (of the working livestock, with a deduction for amortization) for 1 January of the particular year; for insuring buildings, installations, power, manual and other machines and perennial plantings -- based upon the full balance value, with a deduction for amortization and for insuring products, raw materials and materials -- based upon full balance value on 1 January of the particular year.

A reserve fund has been created for covering the difference in financial losses caused by natural calamities or shortfalls in products -- the result of unfavorable weather conditions for production -- for liquidating unsecured indebtedness to Gosbank and for compensating for a deficit in internal working capital at the sovkhozes. It is formed by means of a 20 percent deduction from the profit distributions of sovkhozes.

The statute concerned with improving the system of providing reimbursement for losses caused by natural calamities and other unfavorable conditions also stipulated that 50 percent of the overall total of deductions added to the reserve fund should remain at the disposal of the sovkhozes and other state agricultural enterprises and that the remaining amount be transferred to the centralized fund of the ministry in accordance with the subordination of these farms. Reserve fund resources that have not been used over a period of 3 years are placed in the centralized fund in increments of 1-year payments.

In the event of a shortage of reserve fund resources, the ministries of agriculture of the union republics are authorized to use Gosbank credit for covering the losses caused by natural calamities and other expenditures.

The following deductions are made from payments for insuring the property of sovkhozes: a) for financing measures aimed at preventing the loss of or damage to agricultural crops, animals and other property subject to insurance -- 4 percent; b) for the formation of an inter-republic reserve fund for the insuring of property -- 3 percent; c) for maintaining the organs of state insurance, mass-explanatory work and other expenses associated with the insuring of property -- 2 percent. The remaining amount, totaling 91 percent, is used for reimbursing sovkhozes for losses sustained.

Commencing on 1 January 1979, insurance reimbursement for the loss of or damage to agricultural crops, animals and other property has been paid out on the basis of documents composed by the State Insurance Inspectorate, with the mandatory participation of representatives from the sovkhozes and the executive committee of the local rural (settlement, rayon, municipal) soviet of people's deputies. The document is composed on the basis of a sovkhoz report, presented to the organs of Gosstrakh [Main Administration of State Insurance] within 3 days following the day on which the property loss occurred.

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HOUSING PROBLEMS OF UZBEK AGRICULTURAL WORKERS DISCUSSED

Tashkent PRAVDA VOSTOKA in Russian 25 Sep 79 p 2

[Article by A. An, head of the water management construction sector of the Dzhizak Party Obkom: "They Have the Fields, but No Housing"]

[Text] The fruitful virgin lands of the Dzhizak steppe are more than 200,000 hectares. Rich harvests of cotton, grain, fruits and vegetables can be grown here. One only has to provide water to the earth. This problem is being solved by a collective of thousands of the Dzhizakstepstroy Territorial Administration.

This large construction subdivision has carried out a large volume of work within a comparatively short time. Not far from the intersection of roads leading to Tashkent, Dzhizak and Pakhtakor, one can see the gutter system and the inscription above it: "The first gutter in Dzhizak steppe." These are the lands of the Sovkhoz imeni Ul'yanov--the first cotton-growing farm created in the Dzhizak virgin lands. The developers began their assault on the enormous steppe tracts from this gutter and from these fields.

The scientists worked out original and daring designs of water reclamation structures for flooding the Dzhizak steppe. It was decided to construct cascades of four pumping stations and four machine canals which should raise the water up the mountain.

Much has already been done. Construction of the main Dzhizak pumping station is nearing completion. The first machine canal began operating when its first unit was put into operation. New cotton-growing farms began to emerge one after the other. More than 15,000 hectares were developed for them.

Cotton production in the oblast will increase continuously due to development of new lands. This year, for example, it is planned to develop an additional 10,000 hectares. Construction of a second pumping station has begun. It will exceed the main pumping station in capacity. Ten heavy-duty pumps will also be installed here, which will lift the water to a height of 47 meters to a second machine canal.

The volume of reclamation and construction work which must be carried out is enormous. The workers of the Dzhizakstepstroy Territorial Administration must introduce almost 40,000 hectares into agricultural circulation by the end of the current five-year plan. Along with this, an extensive irrigation system must be constructed and favorable conditions must be created for the life of the collectives of the new virgin-land sovkhozes. In short, everything must be done to see that development of the virgin lands proceeds in a complex manner without disproportions between introduction of lands and construction of housing, cultural-service and production objects in the sovkhoz villages.

One does not have to agitate for complex development of the virgin lands. The example of the development of the Golodnaya Steppe vividly proved its need. Practice shows that the collectives of those farms where good housing and communal-service conditions have been created for the rural workers operate most productively here. This can be said about the sovkhozes Pakhtakor and Samarkand of Pakhtakorskiy Rayon and about the Sovkhoz imeni Lenin of Dustlikskiy Rayon and about many other farms.

But there are also sad examples. According to the normative deadlines, 5-6 years are allocated for construction of the sovkhoz village. And one can name a number of farms in the oblast where it takes 8-10 years to erect housing settlements. These are primarily the central farmsteads of the sovkhozes imeni Abay and Tashkent of Mirzachul'skiy Rayon and the sovkhozes imeni Kh. Alimdzhan and Uchkakhramon of Oktyabr'skiy Rayon and others.

The fact that the plan for introduction of housing has been fulfilled by only 94 percent, that of brigade stations by 85 percent, that of production-economic centers by 77 percent, that for repair-machine shops by 41 percent, that for clubs by 39 percent and that for medical institutions by 37 percent with total development of new lands in the Golodnaya Steppe causes alarm. All this significantly reduces the efficiency of the irrigated hectares.

Unfortunately, we also trace a similar pattern. Development of lands in the Dzhizak Steppe is proceeding at faster tempos than housing-service construction. In this regard the example of the Sovkhoz imeni 25th CPSU Congress of Zaaminskiy Rayon is typical. The plan for introduction of the lands was fulfilled by 85 percent by the developers, while the housing construction plan was fulfilled by only 34 percent. There is no school, kindergarten and many other cultural-service and production objects in the sovkhoz village. The situation is even worse in cost-accounting sections nos. 3, 4, 11 and 12, located on the territory of this same rayon. The absence of firm confidence that the subdivision of Dzizhakstepstroy will correct the situation in the near future makes one cautious: the volume of uncompleted construction exceeds 100 million rubles.

Construction of such an important object as the second pumping station is proceeding much more slowly than planned and work has also not been completed on laying the second machine canal. As already noted, introduction of the new lands in the Dzhizak Steppe into agricultural circulation outstrips erection of sovkhoz villages as before. And it is no accident that an acute shortage of workers is felt on the new sovkhozes.

Experience has shown that each virgin-lands sovkhoz should have a housing fund of not less than 45,000-50,000 square meters. Only in this case will the needs for a work force be completely met on the farms and, which is especially important, the return of each hectare of developed land will increase 1.5-fold. It is hard to understand why construction of villages with housing for 25,000-30,000 square meters has been planned on the new sovkhozes in the virgin lands of the Dzhizak Steppe. After all, this will become a serious hindrance in the future in the path of high efficiency. And this must be thought out today in order to avoid losses.

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RESOLUTION ON FURTHER DEVELOPMENT OF HOUSING CONSTRUCTION IN FARM AREAS

Moscow SEL'SKAYA ZHIZN' in Russian 17 Nov 79 p 1

[Article: "With the CPSU Central Committee and USSR Council of Ministers"]

> [Excerpts] The CPSU Central Committee and USSR Council of Ministers have adopted a decree "On further development of plant construction of wood panel houses and sets of wood parts for houses from local materials for rural housing construction."

It is noted in the decree that a number of measures has been implemented during the past few years in the country on further development of agricultural production, social development and arrangement of rural populated points. However, the existing construction base does not provide the necessary rates of construction of housing and objects of cultural-service designation in rural locales and also does not meet the needs of the rural population for well-appointed homes.

It is recognized that one of the most important directions for improving the organization of housing construction in the countryside is development of plant production of wood panel houses and also a significant increase in the output of sets of wood parts for houses with walls from local materials.

To develop plant production of housing for rural locales, the CPSU Central Committee and the USSR Council of Ministers have obligated the Central Committees of the Communist Parties of the Union Republics, kray and oblast party committees, the Councils of Ministers of the union republics, the ministries and agencies of the USSR and local Soviets of Working Peoples' Deputies to regard universal development of the production base of industrial housing construction in rural locales by construction of new and expansion of existing enterprises for production of modern wood panel houses and also sets of parts for houses with walls from local building materials as one of its most important tasks.

The Ministry of the Timber and Wood Processing Industry of the USSR, a number of other ministries and agencies of the USSR and Councils of Ministers of the union republics have established tasks to provide production of wood houses of plant manufacture up to 7.1 million square meters by 1985 and up to 11 million square meters annually by 1990 of the total area and also sets of wood parts for houses with walls from local materials up to 8.5 and 12.2 million square meters annually, respectively, of total area at the enterprises of the industry and in interkolkhoz construction organizations. It is planned to implement construction of new and expansion of 78 existing housing construction and wood processing enterprises of 23 machine building and metalworking plants and 31 enterprises of the construction materials industry during this time. The disposition of housing construction combines is being provided with regard to bringing them as close as possible to raw material resources and regions of housing construction.

The Ministry of the Timber and Wood Processing Industry of the USSR, the Ministry of Internal Affairs of the USSR, the Ministry of Industrial Construction of the USSR, the Ministry of Rural Construction of the USSR, the Ministry of Construction of the USSR, the Ministry of Construction of Heavy Industry Enterprises of the USSR, the Ministry of Transport Construction, the Ministry of Power Engineering and Electrification of the USSR, the RSFSR Council of Ministers and the Ukrainian SSR Council of Ministers have been entrusted with providing construction of new and expansion of existing housing construction and wood processing enterprises, plants for production of sanitation engineering pipe blanks, nonstandardized production equipment and spare parts for it in 1980-1989.

A unified technical policy in design and construction of wood houses of plant manufacture, organization of scientific research and experimental-design work in this area and monitoring the observance of construction norms and rules has been entrusted to the State Committee on Civil Construction and Architecture attached to GOSSTROY of the USSR.

The Ministry of the Timber and Wood Processing Industry of the USSR has been entrusted with developing a unified technical policy in the field of production of wood housing construction, introduction of progressive production processes, working out the requirements on production equipment, construction and finishing materials and complete sets of articles and design of enterprises for production of houses, conducting scientific research work in the field of the technology of wood housing construction and creation of effective materials based on wood and development of methods of transporting the structures to the construction sites.

The decree provides for construction of one- and two-story houses with regard to natural-climatic conditions supplied with engineering equipment and with variants of heating systems for various types of fuel. According to agreements with the customers, the houses will be delivered with complete sets of parts for outdoor construction projects.

Construction of new and expansion of existing capacities for production of construction materials has been planned at enterprises of the Ministry of the Construction Materials Industry of the USSR and also a number of other ministries. It is planned to construct plants to produce mineral wool products, gypsum fiber and cement chip panels and asbestos-cement and gypsum-cardboard sheets has been provided.

The Ministry of the Machine Tool and Tool Building Industry has been given the responsibility for development, assimilation and manufacture of continuous, automatic and semiautomatic lines, highly productive equipment for production of wood panel houses, parquet flooring, carpentry and other wood products and also the functions of general supplier of these lines and equipment. It is planned to expand a number of enterprises for production of wood processing equipment in 1980-1984 to develop a machine tool construction base.

The Ministry of Construction, Road and Municipal Machine Building and the Ministry of the Chemical and Petroleum Machine Building in cooperation with other ministries have established tasks for development and manufacture of various types of production equipment for producing materials and products required for production and appointment of houses of plant manufacture. It is planned specifically to organize the output of lines for production of cement chip panels, gypsum-cardboard sheets and arbolite panels, glass packets, lines for painting asbestos-cement sheets and equipment for manufacture of rubber and plastic articles.

The Ministry of the Chemical Industry and the Ministry of the Petroleum Refining and Petrochemical Industry of the USSR have been requested to adopt measures for a significant increase in production of products of the chemical industry for housing construction--foam plastics, sealing spacers and seals, polyehtylene film, resins, paints and other materials.

To provide complete wood houses of plant manufacture, the Ministry of the Aviation Industry, Ministry of Installation and Special Construction Work of the USSR, the Ministry of Ferrous Metallurgy of the USSR, the Ministry of the Gas Industry, the Lithuanian SSR Council of Ministers and the Latvian SSR Council of Ministers have established tasks to supply housing construction enterprises with heating units, sanitary engineering devices, lock fittings, aluminum and sheet steel products and electrical engineering equipment.

A task for construction of eight vocational-technical schools in 1981-1983 has been established to expand the training of qualified workers for the wood housing construction industry.

Completion of work on construction of panel homes and homes with walls from local materials in rural locales has been entursted to organizations of the Ministry of Rural Construction of the USSR and the interkolkhoz construction organizations, and in regions where the indicated organizations do not exist, it has been entrusted to contracting-construction installation organizations of other construction ministries.

The Councils of Ministers of the union and autonomous republics and the ispolkoms of the kray and oblast Soviets of Working Peoples' Deputies have been asked to provide timely development of projects for planning and construction of rural populated points, keeping in mind the extents of use of wood panel homes and homes with complete sets of wood and other parts and walls from local materials during construction of these points.

The Councils of Ministers of the union republics, Central Union of Consumers' Societies of the USSR and the Ministry of Trade of the USSR have been entrusted with implementing measures to develop trade in wooden homes of plant manufacture and sets of wood and other parts for houses from local materials.

Gosplan of the USSR and Gossnab of the USSR have been entrusted with working out the drafts of annual plans to provide an increase of market funds for wood houses of plant manufacture and sets of wood parts for houses with walls from local materials and also for engineering equipment, slate, glass, cement and other construction materials and products according to applications of the Ministry of Trade of the USSR and Tsentrosoyuz.

The CPSU Central Committee and the USSR Council of Ministers expressed confidence that the Central Committees of the Communist Parties of the union republics, the kray and oblast party committees, the councils of ministers of the union and autonomous republics, the ispolkoms of the kray and oblast Soviets of Working Peoples' Deputies and the agricultural, industrial and construction workers will adopt all the necessary measures to solve the most important tasks of rearrangement of rural populated points.

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WORK OF AGROCHEMICAL CENTERS DESCRIBED

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 7, Jul 79 pp 17-18

[Article by M. Stratulat, chairman of the Agrokhimtsentr Production Association for the Use of Chemical Processes and the Protection of Plants of the Kolkhozagroprom Scientific Production Association of the Council of Kolkhozes for the Moldavian SSR: "An Agrochemical Center in Behalf of the Harvest"]

[Text] The increasing use of chemical processes, the volume of work associated with the use of fertilizers and the considerable proportion of expenditures for fertilizers have advanced as one of the principal tasks the need for achieving a systematic increase in the return being realized from each kilogram of active agent, in the form of an increase in yield.

It bears mentioning that during the past few years an increase has taken place in the use of chemical processes in agricultural production in Moldavia. Scientific support in the form of agrochemical services for the farms is being carried out by the Plodorodiye NPO [Scientific Production Association] and its subunits -- Kishinev branch of TsINAO [Central Institute of Agrochemical Services], zonal agrochemical laboratories.

Jointly with workers attached to rayon support points of zonal agrochemical laboratories, the specialists at the agrochemical centers are preparing and supplying the branch with initial information on the structure of the cultivated areas, predecessor crops, soil types and sub-types, agrochemical indices, planned cropping power, mineral fertilizer funds and availability of organic fertilizers. This information is processed in the branch using the proper matrix ("Rubin-2" program for the Minsk-22 electronic computer) and thereafter it is returned to the agrochemical centers in the form of fertilizer usage plans for next year's planned harvest and for each field or tract of a farm. In 1975, the mentioned plans were introduced at 275 farms and in 1978 -- at 475 kolkhozes and associations.

The conversion over to the centralized form of agrochemical services made it possible to employ additional and hitherto unused reserves in behalf of the harvest. Organic fertilizers were included among these unused reserves.

In 1974 the agrochemical centers transported 593,000 tons and applied 443,000 tons of organic fertilizers and in 1978 -- 6.5 and 5.7 million tons respectively, or 10-12 times more.

In the preparation of composts, the agrochemical centers are making extensive use of the residues from plant raw materials. This work was begun in 1974, at which time the initial 9,000 tons of composts were prepared. Since that time the centers have increased this production to almost 1 million tons in 1978. More and more use is being made in the production process of organic fertilizers which accumulated at livestock husbandry complexes. Hence, more than 7 million tons of waste water were used last year for irrigation purposes, mainly for forage crops.

The centralization of the mineral fertilizer funds made it possible to reduce the number of fertilizer trans-shipments, which in turn brought about a reduction in losses, to reject the use of inefficient methods for applying numerous mineral fertilizer top dressings to plants during the growing season and to accumulate mineral fertilizers in the required ratios for application during the principal soil cultivation work. The volume of work being carried out with mineral fertilizers at the agrochemical centers is increasing with each year. In 1974, 14,000 tons of fertilizers were used and in 1978 -- 275,000 tons.

The agrochemical centers employ two technologies for applying fertilizers: direct flow and trans-shipment. In the case of the direct flow technology, 1-RMG-4 fertilizer spreaders are used only at a distance of 3-4 kilometers and the KSA-3 spreaders -- up to 20 kilometers, from the mineral fertilizer mixing units. The trans-shipment technology is carried out in accordance with the plan "mineral fertilizer mixing unit - motor vehicle (SAZ-3502) - spreader - field" and it is used at distances of from 5 to 20 kilometers. Two technological plans are employed for applying organic fertilizers: "complex-field" and "complex-clamp-field."

The use of the mentioned technologies made it possible to realize a savings of 150,000 rubles in 1974. In 1976, the savings amounted to 650,000 rubles and in 1977 -- more than 1 million rubles. During 1977, the average expenditures for all agrochemical centers for transporting and applying 1 ton of organic fertilizers amounted to 1.35 rubles and 1 ton of mineral fertilizers -- 5.1 rubles. These figures were 40-50 percent lower compared to the previous form of agrochemical services.

The main criterion for evaluating the work of the agrochemical centers is cropping power and gross yield of agricultural crops. Naturally, the mentioned indices are dependent to a considerable degree upon the effectiveness of use of the chemical processes. For the republic's kolkhoz-cooperative sector on the whole, the return from a kilogram of active fertilizer agent in terms of winter wheat grain was 9.6 kilograms during the 1973-1978 period and for grain crops (excluding corn) -- 8.6 kilograms.

A substantial increase has taken place in recent years in the cropping power of grain crops, including wheat and corn. For example, in 1976 the grain crop yield per hectare was 28.4 quintals, in 1977 -- 33.4 and in 1978 -- 39 quintals. The cropping power of winter wheat in the kolkhoz-cooperative sector and for the indicated years was 32.8, 38.6 and 40.7 quintals per hectare respectively. In 1976, a yield of 27.7 quintals of grain corn was obtained per hectare, in 1977 -- 29.3 and in 1978 -- 42.4 quintals per hectare. In 1976 the gross yield of grain crops was 1.67 million tons and in 1978 -- 2.53 million tons.

Rayon Kolkhoz Council	Cereal Grains			Winter Wheat			Grain Corn		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
Brichanskiy	36.1	36.1	42.2	42.2	38.0	42.8	32.5	37.0	45.6
Glodyanskiy	34.1	39.5	42.5	34.5	45.2	47.6	35.3	39.7	45.5
Drokiyevskiy	27.9	36.6	41.4	33.9	40.1	43.6	26.1	36.2	40.9
Leovskiy	22.9	32.3	43.3	31.1	39.0	41.8	18.5	25.9	46.2
Oknitskiy	34.7	32.5	40.1	39.2	36.2	41.5	31.5	31.2	45.3
Faleshtskiy	36.9	38.4	45.9	38.4	46.2	49.8	36.8	34.3	46.3
Chadyr-Lungskiy	28.0	31.5	48.8	21.3	38.7	40.0	32.8	25.9	61.5

The agrochemical centers of many rayon kolkhoz councils (see Table, quintals per hectare), after having organized the use of fertilizers in conformity with the scientific recommendations, are exerting a decisive influence with regard to the size of the harvests and improvements in the gross yields for the agricultural crops.

In 1979 the interkolkhoz agrochemical centers have been confronted with new and more complicated tasks. First of all, considerable improvements must be realized with regard to raising the effectiveness of those fertilizers being applied in behalf of sugar beets, tobacco and corn under cultivation on irrigated lands.

The rayon kolkhoz councils must give serious attention to strengthening in every possible way the material-technical base of the agrochemical centers -- the construction of large storehouse facilities at each chemization point, supplying of equipment, furnishing technological transport and terminating the practice of diverting resources for the carrying out of work not associated with the use of chemical processes.

The agrochemical centers are a decisive link in the harvest campaign and thus the work must be arranged in a manner such that they fully reveal all of the advantages of interenterprise cooperation in the sphere of agrochemical services.

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NEW AGROCHEMICAL SERVICES ASSOCIATION IN BELORUSSIA DESCRIBED

Minsk SEL'SKAYA GAZETA in Russian 31 Oct 79 p 3

[Article by M.G. Kudreyko, chairman of Belsel'khozkhimiya and Deputy Minister of Agriculture for the Belorussian SSR: "At the Starting Line -- 'Belsel'khozkhimiya'"]

> [Text] A new production-scientific association for providing agrochemical services in behalf of agriculture -- Belsel'khozkhimiya -- has been created in the republic.
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> The chairman of Belsel'khozkhimiya and Deputy Minister of Agriculture for the Belorussian SSR M.G. Kudreyko acquainted a correspondent of BELTA [Belorussian News Agency], A. Aferovskiy, with the plans and tasks of this association.

During the July (1978) Plenum of the CPSU Central Committee, mention was made of the fact that the country still lacks a united and scientifically organized system for providing agrochemical services for the kolkhozes and sovkhozes. In some areas the use of chemical processes is the concern of Sel'khoztekhnika, in others it is monitored by interenterprise associations and in still other areas this important work is neglected altogether. In the interest of restoring order, the decision has been made to concentrate this service within a system of agricultural organs possessing the required production base.

The association's structure included such republic subunits as a laboratory for the quality of fertilizers and toxic chemicals, a station for the biological protection of plants and a laboratory for forecasting and diagnosing agricultural crop pests and diseases.

With control over the agrochemical service concentrated in the one organization, the association is able to determine in an efficient manner the farm requirements for chemical resources, control the quality of these resources and the timeliness of deliveries, develop scientifically sound recommendations for the use of mineral fertilizers and provide more effective protection for the crops. The mechanized detachments are also concerned with procuring peat and local lime materials.

At the same time, work will be carried out on a large scale in connection with improving meadows and pastures and constructing production bases, fertilizer storehouses, ponds and water basins.

A typical feature of the new branch is the fact that the efforts of agricultural specialists and scientists in our country are being combined for the very first time in the field of agrochemistry.

The new system will make it possible to use in an efficient manner such highly productive and specialized machines as the ARUP-8, KSA-3 and other items of equipment, the use of which was formerly based upon the profit to be obtained from orders rather than upon the fulfillment of immediate and specific tasks.

A requirement will exist in the near future, in 19 rayons throughout the republic, to build rail-operated mineral fertilizer storehouses and in 12 rayons -- production bases for the disposition of mechanized detachments and equipment.

In his concluding remarks, M.G. Kudreyko stated that the organization of a single agrochemical service will make it possible to increase considerable the work volumes completed, to utilize the resources of chemization in a scientific manner, to raise the culture of farming and, in the final analysis, to raise the cropping power for all agricultural crops.

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USSR CONSUMER COOPERATIVES DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 11 Nov 79 p 2

[Article: "What a Soviet Consumer Cooperative Is"]

[Text] There are 368,400 retail trade enterprises which serve 115 million persons. The consumer cooperatives' share of all the retail trade in the nation comprises 28 percent. At the present time, through cooperative trade over 30 percent of the refrigerators, sewing machines and washing machines are sold as well as 46 percent of the motorcycles and motor scooters, 52 percent of the bicycles and mopeds and over half of the construction materials, about 600 million books, brochures and other published materials.

There are 92,500 public catering enterprises where 3.6 million people can sit down at one time. For 1978 alone approximately 265,000 tons of confectionery products and bakery products, and over 640 million rubles worth of semi-prepared products and foodstuffs were produced and sold.

There are 22,900 industrial enterprises which last year had an output of 5.4 billion rubles. They produced 11.6 million tons of bread and bakery products, 1.4 billion standard cans, 119,300 tons of sausage products, and 58.5 million decaliters of nonalcoholic beverages, and many other products.

The system of procurement enterprises which directs the procurement and purchasing of over 60 types of agricultural products and raw materials is of a branching nature. In 1978 the procurement turnover reached 7.8 billion rubles.

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CONSUMER COOPERATIVE WORK IN USSR REVIEWED

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 79 pp 4-8

/Article by A. Yashin, deputy chairman of the USSR Central Union of Consumers' Societies Administration: "Procurement and Purchasing Officers of the Consumer Cooperative on the Eve of Their Congress"/

/Text/ This year the terms of office are coming to an end in the organizations of management and control for consumer cooperatives which were chosen in 1974. In connection with this, reports have already been made to those who will be making the choices--by members of the cooperatives or their authorized agents, administrations and control organizations of the consumer societies, rayon, oblast, kray and republic consumers' unions. The next, seventh meeting of the Council of the Central Union of Consumers' Societies which was held in March of this year, approved the resolution concerning calling the 10th Congress of Authorized Consumers' Cooperatives of the USSR from 12 to 15 Nov 79.

The consumer cooperative is a mass social and economic organization which unites over 60 million members and shareholders of the cooperatives and is built and works on the principles of democratic centralism. Therefore, all managing and controlling organizations are subordinate to the members of the cooperative and are chosen from the bottom to the top. During the campaign, 233,000 meetings of members and shareholders of the cooperatives and their authorized agents (in the rayons) were held. About three million persons--the best representatives of the Soviet cooperative movement--were selected in the organizations of management and control.

The report and election campaign began in March and was conducted under the law of activating the broad masses of members and shareholders, mobilizing the army of three million workers of the cooperative organizations and enterprises for the successful implementation of the tasks emanating from the resolutions of the 25th Party Congress, from the July and November (1978) Plenums of the CPSU Central Committee, the regulations and recommendations from the reports and speeches made by General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet Comrade L. I. Brezhnev. The cooperatives are striving to direct the activity of their organizations toward fundamental improvement of trade services for the rural populace, the further improvement of procurement activity, significant increase in the purchase of surplus agricultural products, and searching for additional goods resources by expanding the output of products and improving the output's quality at their own industrial enterprises.

During the five years which have passed after the last elections, 4.7 billion rubles were spent by consumer cooperatives for developing the material and machinery base. There were built and reconstructed thousands of trade enterprises, restaurants and dining rooms, warehouses, refrigerators, store houses for potatoes, vegetables and fruits.

The basic branch of consumer cooperative activity is trade and of the entire trade turnover, over 70 percent falls on the rural population which in just one hour acquires almost 20 million rubles worth of goods.

Another large and constantly growing branch of the cooperative business are the procurements of agricultural products and raw materials. Now the consumer cooperative is one of the main purchasers in the nation and on a large scale it procures agricultural products according to the state plan and it purchases surplus agricultural products from the populace and kolkhozes according to agreed upon prices. The 25th CPSU Congress obligated the consumer cooperative to take measures for the further expansion of the procurement of agricultural products and raw materials, as well as of wild--growing fruits, berries, mushrooms and to include local trade resources in the trade turnover.

The share of the consumer cooperative in the overall procurements in the nation for 1978 was 50 percent in potatoes, 34 in vegetables, 21 in fruit and 67 in melon crops. During the three years of the current five-year plan, the established plans of procuring these products (with the exception of melon crops), have been successfully carried out by the Central Union of Consumers' Societies. During the last three years, 2.7 million tons of potatoes, 2.3 million tons of vegetables, and .3 million tons of fruits in excess of the plan were procured. The cooperatives of Russia, the Ukraine, Kirgiz and Lithuania achieved high indexes in purchasing potatoes, fruits and vegetables.

The cooperatives of the organization of the Belorussian SSR which in three years purchased 1.1 million tons of potatoes in excess of the plan, made a particularly large contribution in providing the people with potatoes.

The cooperative workers of Uzbekistan are successfully purchasing fruits and vegetables and are delivering them to the consumers of the All-Union fund. During the three years of the 10th Five-Year Plan, they purchased 2.4 million tons of vegetables (145 percent of the plan), 186,000 tons of fruits (129 percent of the plan), and 1.7 million tons of watermelons and cantaloupes (121 percent of the plan). During the current year they are the leaders of the cooperative organizations for procuring and delivering fruit and vegetable products.

An important factor which promotes the successful implementation of the plans for purchasing and dispatching products to the consumers and the storage of the products for a long period of time as well as the protection of its quality, is the presence of a material and machine base of procurement, trade and processing organizations and enterprises. The present material and machine base for procuring plant-growing products was in fact created during the last 10-12 years. Only during the last eight years were there built, according to standard plans, receiving and procuring points, store houses for potatoes, vegetables and fruits, pickling and salting shops with an overall capacity of 3.3 million tons which comprises over 90 percent of the entire material and machine base for procurement which the consumer cooperative has. The construction of the base continues.

In the current year procurement organizations of the consumer cooperative must purchase, according to the state plan, 15 million tons of potatoes, vegetables, fruits and melon crops and considering the accepted socialist obligations, the purchase of this output at agreed upon prices, will increase the volume by 17 million tons. Of these, cooperatives must deliver over five million tons to the recipients of the All-Union fund and special consumption and 2.6 million tons must be placed in long-term storage for trade and public catering between seasons.

In order to carry out the indicated plans and socialist obligations we have all opportunities. Receiving and procurement and pickling-salting points receive potatoes, vegetables, fruits and other agricultural products. Also, over 65,000 seasonal receiving points do this. The canning industry of the consumer cooperative, which lists 335 enterprises with a total capacity of 1.7 billion cans per year, will accept and process over one million tons of agricultural products.

The majority of the consumer unions are completely provided with fruit and vegetable boxes for packing for purchases which are made according to plan and those which exceed the plan. However, as a result of a shortfall in the delivery of packaging and packing materials, the stock for the first half of the year in individual consumer unions, and particularly in the Ukrainian SSR, found itself in a tense situation in supplying fruit and vegetable boxes and barrel packaging.

The Ukrainian SSR consumer unions which are the basic suppliers of pickles and tomatoes for the All-Union stock, are experiencing great difficulties in securing barrels. To a great extent, this situation is explained by the unsatisfactory return of barrels by those who receive the products. The trade organizations of Leningrad particularly drag out the return of the barrels.

The USSR Gossnab should improve the supply of fruit and vegetable bins and barrels to procurement organizations of the consumer cooperative. In the same way, annually the need for bags for potatoes, onions and garlic is not being met. This year there are not enough bags.

The solution of the problem of providing sacks could be done by organizing the production of net sacks made of plastic materials. The USSR Gosplan and the Ministry of the Chemical Industry should solve this problem in the near future. To a great extent, this will help improve the purchase of potatoes, onions, root crops and will insure the protection of their quality.

The successful implementation of the plans for the procurement of fruit and vegetable products and potatoes is unthinkable without strict adherence to the plan and discipline in the agreement. The personal responsibility of each kolkhoz and sovkhoz leader, each director of the procurement office, base, and canning enterprise for the strict adherence to the agreed upon contracts has a decisive significance in this work.

Unfortunately, many businesses still do not carry out their obligation to the state and do not have any moral or material responsibility for it. This has a negative influence on supplying the population with foodstuffs.

Let us take the Russian Federation. In 1978 the kolkhozes and sovkhozes of the republic were short in supplying organizations of the consumer cooperative in comparison to the agreed upon contracts by 1,560,000 tons of potatoes, 652,000 tons of vegetables, about 80,000 tons of fruits and 154,000 tons of watermelon and cantaloupe. For all of this shortage, penalties were given, as was stipulated in the agreements, which totaled 4.8 million rubles, but only 295,000 rubles were recovered, that is, a little more than 7 percent.

Last year in the Ukrainian SSR the situation in carrying out the contract agreements was no better. Kolkhozes and sovkhozes were short in delivering to the organizations of the consumer cooperative 197,600 tons of potatoes, 654,000 tons of vegetables, 285,400 tons of fruits; moreover, for the shortfall in the delivery of potatoes, not a single cent was recovered in penalties and for the shortfall in the delivery of vegetables, only 12,000 of the 620,000 rubles were recovered.

One of the most important reasons for not carrying out the contract agreements by kolkhozes and sovkhozes is the low demand on kolkhozes from our procurement organizations as well as rayon and oblasts state inspections of purchases and quality of agricultural products. It is time to stop such treatment of carrying out contract agreements. In this work it is necessary to establish government order. Procurement offices must fully demand penalties of farms which do not carry out the agreed upon obligations, punish them, and the state procurement inspection must more strictly control the implementation of the agreements.

In my opinion, it is necessary to solve the problem concerning increasing the size of the penalty for shortfalls in the volume provided for in the agreement as well as for the variety of the products, and stipulate penalties for delivering substandard products, and adhere to the principle of material responsibility of the parties for breaking the agreed contracts. The penalties not demanded from the businesses by the procuring and purchasing officers in an unorganized manner should be confiscated into state income by the department of the USSR Gosbank, while the problem of exacting the debatable penalties should be left to the organs of the State Arbitration Commission.

It should be remembered that in order to make up shortages in the businesses, a large amount of potatoes and fruits and vegetables purchased from the people at higher prices, are attracted into state reserves. In 1978 alone 5.1 million tons of these products for state reserves were purchased from the populace. The people were paid at prices which exceeded the state procurement prices by 250 million rubles.

The consumer cooperative for procuring fur, eggs, leather and fur-bearing raw materials occupies one of the leading positions in the nation. The plans for purchasing all of these types of products are being carried out successfully. At the same time, there are many unsolved problems, although we are constantly searching for resources for improving the quality of the product and efficiency in its procurement.

On the initiative of the USSR Central Union of Consumers' Societies, in 1968 equipment for the production of molded linings for packing eggs was purchased. In the system of the consumer cooperative the production of linings to pack eggs is organized at the Zhitomirskaya paper factory of the Ukrainian Cooperative Union for 140 million items per year, at the Tuymazinskaya paper factory of the Russian Consumers' Union for 140 million per year and at the Zheleznogorskiy combine of the Central Union for 70 million eggs per year. For 1979 there will be a total of 630 molded linings produced, which with double wrapping will insure the packaging of the entire amount of purchased eggs into economic packing.

Using cardboard boxes with molded linings for packaging eggs annually saves 2.3 million cubic meters of wood and reduces the need for railroad trains for transporting packaging by a factor of 2.6. Annually, the total amount saved is approximately 40 million rubles.

The quality of raw material is a very pressing problem. Let us take the purchase of fur. The established plans of state procurement of fur and its delivery to the enterprises of the industry, as a rule, are over fulfilled by the cooperatives. But the situation is poor regarding the quality of the fur which is presented for state purchase, particularly from kolkhozes and sovkhozes. Almost half of the fur is purchased damaged and defective. For this reason, the kolkhozes and sovkhozes annually receive a shortage of this raw material amounting to over 100 million rubles. On many farms, the faulty practice of marking sheep with tar and other indelible dyes has not been overcome. As a result of this, over 500 tons of washed fur with indelible brands is excluded from the balance annually.

Leather raw material which is procured and delivered to the industry is of very poor quality, particularly that which comes from kolkhozes and sovkhozes from livestock which was killed or had to be killed. The share of the III and IV types of large leather raw materials which come from kolkhozes and sovkhozes comprises 69 percent and the small—92 percent. At the same time, the quality of the raw materials procured from individual farms is considerably higher. This obligates the purchasers of the cooperative together with kolkhozes and sovkhozes, agricultural organizations and state procurement inspectors of the oblasts and rayons to take the most radical measures for improving the quality of leather raw materials.

A basic form of state purchasing of fur raw materials is rabbit skins, whose volume for 1978 was 65 million in the nation. This included over 49 million skins procured by organizations of the consumer cooperative. Besides the rabbit skins, the consumer cooperative annually procures over two million lamb skins as well two million astrakhan lamb raw materials.

In order to achieve a maximum increase in the purchasing of rabbit raising products, the consumer cooperative is doing a great deal of work directed at developing rabbit raising among the people and in public organizations. On our initiative voluntary associations of rabbit breeders are being organized. Organizations of the consumer cooperative are selling concentrated feeds to the rabbit breeders, as well as metal fencing and other materials necessary for keeping rabbits. Everywhere and without any obstacles they purchase the products raised by rabbit breeders from the populace. On the kolkhozes and sovkhozes rabbit breeding is developing slowly, as always and 95 percent of the rabbit skins are purchased on the farms in the nation. Therefore in order to create a solid base for purchasing rabbit breeding products, the support of the individual rabbit breeder is necessary.

During the three years of the current five-year plan, cooperatives purchased 142.5 million rabbit skins and a total of 250 million such skins must be purchased for the 10th Five-Year Plan by the consumer cooperative. However, this volume of purchasing is not at all adequate enough to supply the capacity of the enterprises of the Ministry of Light Industry for processing rabbit skins and for fulfilling the demand of the population for goods made from this raw material.

A number of problems must be solved. In 1977 the prices were raised for concentrated feeds which were sold to the people according to the market stock which negatively affected rabbit breeding. Favorable conditions which developed before the prices for feed went up could give considerable results in the development of individual rabbit breeding. According to the opinion of the Central Union of Consumers' Societies, in order to increase the purchasing of meat and rabbit skins it is necessary to allow the cooperative to sell according to the agreements to the populace and rabbit breeding associations for delivering rabbit breeding concentrated feed products at prices provided for concentrated feed, which is sold to kolkhozes, sovkhozes and other state businesses. From the total market stock, rabbit breeding needs no more than 300,000-400,000 tons (10-12 percent).

One of the reasons for the slow rate of development in rabbit breeding among the populace is the absence of the necessary amount of breeding rabbits in sovkhozes and kolkhozes for sale to the populace for reproduction and raising. The USSR Ministry of Agriculture does not have the kolkhozes and sovkhozes fully satisfy the needs of rabbit breeders in pedigreed rabbits. For now no more than 25 percent of their needs are provided for.

Rabbit breeding is also slowed by the fact that concentrated feed plants still do not provide the necessary volume of special full-valued feeds to be sold to people who raise rabbits. As a rule, rabbit breeders are sold concentrated feeds which are prepared for large cattle, swine and even poultry. Using such feed reduces the productivity of rabbit breeding and leads to massive losses.

In the business of guaranteeing an increase in the production and purchasing of rabbit breeding products, a significant role belongs, along with cooperative organizations, to rabbit breeders' societies. The practical activity of the rabbit breeder society presented itself favorably and confirmed the correctness of the selected method of work. Moreover, the necessary attention is not being given to these societies in a number of oblasts and they are not being given the necessary assistance.

In recent years a basic source for satisfying the demand of industry for fur raw materials has been the hutch animal breeding. The share of the Central Union of Consumers' Societies in the production of hutch-raised fur exceeded 30 percent of that produced in the nation.

In the 10th Five-Year Plan tasks have been set before workers of the animal breeding farms of the consumer cooperative which are directed at the significant increase in the production of high quality furs, improving the economic efficiency of hutch-animal breeding on the basis of further concentration and intensification of production. During the five-year plan the consumer unions must increase the production of hutch-raised furs by no less than a factor of 1.4. In the 10th Five-Year Plan the consumer cooperative must procure and deliver to the state no less than one billion rubles worth of fur, produce approximately 18,700,000 skins for the sum of no less than 920 million rubles. This task will, undoubtedly, be carried out.

The party and government assign a great importance to the issues of the organization of procuring wild economically valuable fruits and plants. This is totally understandable since wild growing products at the present time are used in the most varied branches of the national economy. The procurement of wild growing medicinal-industrial plant raw material has a particularly great significance. One out of every three medicinal preparations used by modern medicine, is extracted from plant raw materials or with plant originating components.

Illuminating natural plant resources has an even greater significance, if one is to consider, that various wild growing plants are widely used in canning, confectionery, bakery, liqueur and spirits, perfume and other productions in textile, metallurgical, polygraphic and construction branches of industry.

Considering the important and growing significance of wild growing products and medicinal-industrial raw materials in the national economy, the questions of increasing the procurement of this product is constantly controlled by the direction of the Central Union of Consumers' Societies.

Putting into practice the resolutions of the 25th CPSU Congress, organizations of the consumer cooperative in the 10th Five-Year Plan provided for the further development of procuring wild growing fruit, berries, mushrooms, honey and medicinal-industrial raw materials. During the three years of the current five-year plan, 230,000 tons of wild fruits and berries, 48,000 tons of mushrooms and 40,000 tons of medicinal-industrial raw materials were purchased. This became possible due to the measures taken by the administration of the Central Union of Consumers' Societies on developing in the system of the consumer cooperative a material and machinery base, the training of personnel for procurement and the improvement in the organization of work among the populace. At the present time, over 30,000 procurement and mushroom—preparing points and 2,000 various types of dryers for fruit, berries, mushrooms and medicinal herbs are operating in the system. Planning organizations of the Central Union of Consumers' Societies developed a number of machines and equipment for initial processing of the purchased products.

However, in the procurement of wild growing products, there still are a great deal of inadequacies, the elimination of which will be promoted by better illumination of the resources. In our opinion, it is primarily necessary to limit the number of procurement organizations. As practice has shown, a large number of procurement organizations led to an elimination in competition, a reduction in the quality of the product, and to the dispersion of trade resources among many organizations which limits the possibility of calculating them and effective utilization. All of this disorganizes work. It is necessary to establish an order by which the procurement of wild growing fruits, berries, nuts and mushrooms from the populace would be conducted everywhere only through procurement points of one sector.

There are many inadequacies in the organization of procuring wild growing products in the consumer cooperative. The management of many consumer unions poorly organizes work on revealing and using existing natural growing resources, developing material and machinery base for procurement, make up the personnel staff of procurement officers and mushroom processors at procurement points, supplying their motor vehicle transportation and poorly attract the people to collect wild plants. In many unions of consumer societies they have eliminated specialized equipment, therefore procurement relies on accepting only that quantity of berries, mushrooms and medicinal herbs which the people bring on their own initiative. There are too few agreements concluded with kolkhoz farmers, laborers and employees, school collectives and pioneer camps for the collection and delivery of mushrooms, berries and medicinal raw materials. The delivery of wild products to places of mass growing was not organized. The administration of a number of union of consumer societies came to terms with the facts of the consistent failure to carry out the plan for procuring a variety of medicinal-industrial raw materials. They also do not take the necessary measures to improve the business.

Unfortunately, we still poorly utilize and do not distribute the leading experience of individual unions of consumers' societies for procuring wild products and medicinal-industrial raw materials. And such experience exists. For example, the administration of the Khmel'nitskiy union of consumers' society consistently and thoughtfully is searching for new forms of attracting the populace, newlyweds and especially school children to collect wild growing medicinal plants. Cooperatives are doing a great deal of organizational work among the collectors of medicinal herbs, completing the staffs of procurement offices with specialists on the collection and procurement of medicinal-industrial raw materials, and organized a first and foremost sale of goods, which are in greater demand, to the citizens, who concluded agreements and insured the delivery of medicinal-industrial raw materials in the necessary amount to the organizations of the consumer cooperative. All of this played an important role in increasing purchases. While in 1972 in the oblasts approximately 200 tons of raw materials were procured, in 1978 it was already over 600 tons.

In recent years we often note the good work done by purchasers in the Vladimirskaya Oblast union of consumers' societies, which annually procures 2,000-3,000 tons of mushrooms even under unfavorable weather conditions. This became possible, first of all, due to the fact that the problems of procuring mushrooms receive the attention of the oblasts union of consumers' societies administration, which concerns itself about the development of the material and machinery base as well as about preparing mushroom processors. During the period of mass mushroom collection, the consumers' society union makes available an additional number of mushroom preparing points which number up to 150. Their location is determined operatively, depending upon the mushroom harvest in this or that rayon.

The work done by the Latvian union of consumers' societies must be mentioned. It was the first to create a forest camp for those collecting wild growing and medicinal-industrial raw materials. In the republic this work has been going on for several years. While in the beginning, tent camps were built, now the union of consumers' societies builds stationary little towns with brick and wooden houses, creating the maximum comfort for the pickers not only for picking the wild growing products, but also for rest.

But in Siberia and the Far East the organizations of the consumer cooperative are still poorly assimilating the wealth of the taiga forests. In these areas specialized farms have been created--cooperative fur raising industrial farms--which is a good form of organizing work for the comprehensive utilization of natural resources. However, the weak leadership on these farms, and inadequately developed material and machinery base, and a shortage in personnel specialists reduces the role and possibilities of these farms for mastering the plant resources of the taiga.

The administration of the Central Union of Consumers' Societies felt it necessary to personally warn chairman of the administrations of consumer societies unions of their strict responsibility for carrying out procurement plans and the immediate delivery of medicinal raw materials of various varieties to enterprises of the medical industry and wild growing berries, mushrooms and honey to the consumers of the All-Union stock. Each incident of not fulfilling the established procurement plans with these products, should be considered an extraordinary incident, it is necessary to quickly eliminate revealed inadequacies and severely punish those who are guilty.

The administrations of the union of consumers' societies should study in detail in each oblast, kray and autonomous republic the situation of the affairs with organizing the procurement and delivery of wild growing products and achieve a fuller assimilation of natural growing resources.

First of all, it is necessary to fundamentally improve the organizational work among the people--pickers of forest crops, particularly in schools and pioneer camps. In connection with this, it is necessary to have school collectives and pioneer camps participate in gathering medicinal herbs, mushrooms, fruits and berries. This work can be conducted on a broad range with necessary efficiency. All the conditions are present for this. It is enough to say that on the territory of our land there are about 45,000 pioneer camps which, as a rule, are located in forest or forest-steppe zones with a great deal of wild growing and medicinal-industrial raw material resources. If each camp would at least procure half a ton of medicinally technical raw materials, then in this case it would be possible to purchase, as a minimum, two plans of this product or 22,500 tons.

Besides this, in our country we have 140,000 schools of which 100,000 are in rural areas. In practice, for this work we use only five percent of such schools.

It is necessary for each procurement office to know all of the permanent pickers of medicinal herbs in the area and that it maintain business-like ties with them. It would be advisable to build pioneer camps nearby as receiving and procuring points which would be equipped with dryers for medicinal herbs and berries, installations for processing mushrooms; provide for the supply of each camp with packaging, baskets, nets, branch cutters, scissors, shovels and other tools as well as advertising publications which are necessary for collecting medicinal herbs, fruits, berries and mushrooms; provide the points with transportation equipment.

A special word must be said about the work being done on procuring agricultural product surpluses and the utilization of private subsidiary farm resources. In recent years, the party and state took measures to render assistance in developing private subsidiary farms among the populace. The consumer cooperative was called on to provide a constant procurement of agricultural products everywhere from the citizens and organize their sale in cities and work settlements, as well as promote the improvement in the supply of foodstuffs to the people.

On this subject there are orders from General Secretary of the CPSU Central Committee Comrade L. I. Brezhnev given at the October (1976) Plenum of the CPSU Central Committee and at the 16th Congress of Central Union of Consumers' Societies where he spoke of the necessity to increase the responsibility of the consumer cooperative for purchasing surpluses of agricultural products at private farms. The Central Union of Consumers' Societies and cooperative organizations accepted this order from Comrade L. I. Brezhnev as an aggressive program of action. The Central Union of Consumers' Societies developed a system of measures for the more complete assimilation of trade products which the populace has. Putting them into practice has already given results: for just 1976-1978 over 10 million tons of surplus potatoes were purchased from the populace or 43.7 percent of the total purchases for the Central Union of Consumers' Societies, and 1,600,000 tons of meat in the form of carcass weight. The total share in the nation for populace participation in procuring potatoes comprised 23 percent in 1976, 26 percent in 1977 and 24.5 percent in 1978.

More potatoes are purchased from the populace by the Russian Central Union of Consumers' Societies. During the three years of the 10th Five-Year Plan they purchased 6,618,000 tons or 50.3 percent of the total purchases for the republic, and respectively, it was 1,852,000 tons and 35.7 percent for the Ukrainian ones, 913,000 and 36.7 percent for the Belorussian ones, and 174,000 tons or 50.8 percent for the Lithuanian ones.

Annually on the private subsidiary farms of kolkhoz workers and workers and employees, a large amount of vegetables and fruits are purchased. In the three years of the current five-year plan, in carrying out the state plan 2,644,000 tons of vegetables and 1,595,000 tons of fruit were purchased from the populace.

A broad network of stationary and seasonal procurement points are being opened for purchasing vegetables and fruits from the people. Thus, in 1978 procurement offices of the Kamensko-Dneprovskaya Zaporozhskaya Oblast and the Kurganinskaya Krasnodarskiy Kray opened over 100 points, that is one point for each 250-300 farmsteads during the season of mass purchases. The populace is being rendered assistance in packaging, transportation and other forms of services and it readily sells surplus products to the consumer cooperative.

Cooperative organizations must organize the procurement of all agricultural products everywhere which are of good quality and which are offered by kolkhoz workers, workers and employees who get these products on their own subsidiary plots. For this, a broad network of procurement receiving points has been stipulated. This year, for example, besides those existing points, over 65,000 temporary ones are being opened. Vegetable and fruit preserving and processing enterprises also are purchasing products from the populace.

Cooperative organizations must concern themselves with the purchase of surplus products in gardening associations.

The administration of the Central Union of Consumers' Societies determined that the basis for interrelations between the cooperative or its procurement office, on the one hand, and those selling agricultural product surpluses, on the other, must be an agreement. Now a typical agreement has been approved and its regulation is sent to cooperative organizations. Already this year, many of them have made agreements. This gives the opportunity for timely determination of the volume of products which will come to the cooperatives from the populace, to prepare packaging, distribute products according to their intent: for dispatching fresh food to the cities for sale, to public catering facilities, for processing, for long-term storage, for sale during the between-season period. If there are cases (although not often) of refusal by local purchasing officers to procure products, then it is not due to the absence of a need for them, but because of the slowness of procuring officers or their careless attitude towards the business. Such procuring officers must be replaced with energetic people who show initiative.

Every kolkhoz farmer, worker and employee must be certain that the agricultural surpluses gathered from his subsidiary plot are needed by the national economy and will be unconditionally purchased by organizations of the consumer cooperative at previously established prices. This certainty should be supported by agreements. But the goal of having an agreement must be not only in exposing the resources. It is of no less importance to have the populace raise on its subsidiary plots products according to procurement orders and of necessary varieties, quality and needed assortment. With time that is the way it will be.

In recent years, local soviet and economic organizations took steps directed at increasing the production of agricultural products on private subsidiary farms. On a large scale, kolkhozes and sovkhozes are assisting rural inhabitants in acquiring young animals and poultry, feed, and are allocating pasture land for livestock. Cooperative organizations must provide the appropriate organization of trade with gardening tools, mineral fertilizers and chemical weed killers.

A decision has been approved to give, when necessary, citizens with whom an agreement has been made, a reliable advance of 50 percent when purchasing animal husbandry products and up to 30 percent of the agreed upon sum for plant raising products, using Gosbank credit for this. It is necessary to underscore that in the majority of the cases, the prices themselves stimulate the sale of the products to the consumer cooperative.

A decision was approved for providing the priority sale of scarce industrial goods (construction materials, motorcycles and others) to kolkhoz farmers and workers and employees as well as to those on pensions who sell agricultural products to organizations of the consumer cooperative in accordance with concluded agreements.

In the spirit of political and labor enthusiasm, purchasers of the consumer cooperative are preparing for their congress. Expanding their socialist competition, they are striving to more completely assimilate the purchases of agricultural products from the kolkhoz farmers, sovkhoz farmers and private subsidiary plots of the citizens; make their contribution in carrying out the main task of our party in the steady improvement of the well-being of the soviet people, and for the more complete satisfaction of their growing demands.

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BELORUSSIAN FARMS DEVELOP ECONOMIC FORMS FOR COOPERATIVE UNITS

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[Article by G. G. Gol'dman, chief of the Main Administration of Economics and Planning of the Belorussian SSR Ministry of Agriculture, and A. I. Beresneva, section chief at the Belorussian Scientific Research Institute of Scientific-Technical Information: "How To Improve Mutual Relations Among Farms"]

[Text] A great deal of work is being done in our republic to carry out the resolutions of the 25th CPSU Congress and July 1978 Plenum of the CPSU Central Committee on continued intensification of agriculture, raising its efficiency, and deepening specialization and concentration of production on the basis of interfarm cooperation. Thus, in the last three years the number of farms engaged in raising flax has been cut by 399 and the average size of a flax field has increased by 35 hectares. A great deal has been done to concentrate flax growing in Grodnenskaya Gomel'skaya, and Brestskaya oblasts where flax fields are located in 10-12 rayons near flax plants. In Novogrudskiy, Smorgonskiy, Ivatsevichskiy, Baranovichskiy, Shumilinskiy, Goretskiy, and several other rayons the share of flax in the structure of crops has been increased 9-13 percent and the average area in flax at flax growing farms has risen to 200-320 hectares.

The number of farms raising sugar beets for industrial purposes has been cut 39.5 percent in recent years, while the average size of sugar beet fields has increased 70 percent.

Some changes have also taken place in vegetable growing. The production of commodity vegetables is concentrated primarily at the sovkhozes of dairy-vegetable trusts where the average size of fields per farm is about 150 hectares, while their share in arable land is more than six percent. Last year specialized vegetable sovkhozes sold 93 percent of their vegetables to the state.

A network of specialized farms producing seed for grain crops, potatoes, and perennial grasses has also been established.

Notable changes have taken place to deepen specialization and raise the level of concentration in animal husbandry. The average farm now has 668 cows, and 200 kolkhozes and sovkhozes have 1,000 or more, while 99 farms have 1,200 or more. There are 293 farms specializing in feeding out cattle. The republic has established 218 special farms to feed out hogs and 189 farms that raise replacement calves. Concentration of sheep raising has been carried out in 88 rayons, and 67 percent of the sheep herd is now placed at farms with 2,000-3,000 head apiece. Last year the large farms produced 72 percent of the output from sheep raising. The share of specialized farms in total sale of livestock on the average for the republic was 27 percent last year, while in Grodnenskaya Oblast it was 66 percent. This is having a good effect on economic indexes. The additional earnings received by the public kolkhozes and sovkhozes for selling heavier young cattle to the state reached 262.2 million rubles in 1978, 374 rubles per ton of young cattle sold. This figure was 561 rubles in Grodnenskaya Oblast, 432 in Gomel'skaya, 218 in Vitebskaya, 311 in Minskaya, and 324 rubles in Mogilevskaya Oblast.

Significant changes in the structure of production and the formation of new production organizations have complicated economic ties among farms. At the narrowly specialized farm one or a few commodity products determine its financial condition. Therefore, the development of the process of cooperation and the economic condition of participants in cooperation depend on how correctly the economic mutual relations among farms are organized.

In our republic the most widespread of the various forms of organizing production on an interfarm basis has been having kolkhozes and sovkhozes perform the production functions of interfarm enterprises. Typical examples are the Mir Sovkhoz-Combine in Baranovichskiy Rayon, the Kolkhoz imeni Kritskiy in Gomel'skiy, the kolkhozes imeni Kirov and Frunze in Shklovskiy Rayon, and the Sovkhoz imeni Ul'yanov in Minskiy Rayon where the production of output (feeding out cattle, raising heifers, production of seed and feed, and the like) at definite farms is combined with share participation by other kolkhozes and sovkhozes.

These farms organize their work in conformity with the Model Statute on the Kolkhoz or the Statute on the Socialist State Production Enterprise. Mutual relations between them and other kolkhozes and sovkhozes are regulated by contracts. With respect to the interfarm activity of these kolkhozes and sovkhozes management is exercised by an assembly of representatives of the participating farms and the council that they elect. The output and profit received from interfarm activity belong to the participating farms.

Following the orders of the Ministry of Agriculture of the Belorussian SSR, the decision to organize cooperation and allocate the production functions of an interfarm enterprise or organization to a particular farm is made by an assembly of authorized representatives of the kolkhozes and sovkhozes who have expressed a desire to participate in this cooperation. The decision must be formalized by a protocol and ratified by established procedures, just as with the creation of an interfarm enterprise.

The crucial condition for insuring strong interfarm cooperation is establishing correct procedures for the distribution of the profit received from interfarm activity.

The General Statute on the Interfarm Enterprise in Agriculture ratified by the USSR Council of Ministers in April 1977 stipulated that the mutual relations among cooperating farms and an interfarm enterprise can be regulated through calculated prices and by distribution of profit.

In August 1977 the USSR Ministry of Agriculture and State Committee on Prices of the USSR Council of Ministers, with the consent of the USSR Central Statistical Administration, ratified an order on the principles of development of calculated prices, setting forth the basic requirements for price formation, the procedures for determining the normative prime cost and profits of sale of final output, and sample calculations to set prices for young cattle, hogs, heifers, crop products, and the like. Similar principles were established in the recommendations on this issue developed by the Belorussian Scientific Research Institute of the Economics and Organization of Agriculture and ratified by the Belorussian SSR Ministry of Agriculture in 1973-1976.

The primary calculated price is normative prime cost and normative profit, computed for the concrete production conditions of the particular output for the group of cooperating farms. The objective of the normative approach is to stimulate a rise in the level of economic management, reduce costs below the norm, cut unproductive expenditures and wastes, and even out production and wage conditions.

The calculated prices may include all calculated profits for distribution among the cooperating enterprises or a part of the profits, with later supplementary distribution among participating farms.

Both these forms of profit distribution have been used in the republic today. Calculated prices have received the broadest distribution.

More than 10 years of experience with the use of these prices confirms that they should correspond to the concrete conditions of production, take the level of management achieved into account, and be revised when significant changes occur in the level of mechanization, in production technology and organization, conditions of output sales, and the like. This should be at the initiative of the cooperating farm.

In Grodnenskaya Oblast, for example, calculated prices for young animals delivered for feeding out and additional growth were differentiated by rayons and also according to the weight and age of the animals. The conditions of deliveries and mutual relations among farms are determined each year by contracts. The number and weight of livestock turned over to the specialized farms are recorded in the production-financial plans of the cooperating farms. The parties are materially liable for performance of the contracts.

The table below shows the level of 1978 calculated prices for particular rayons.

Table of 1978 Calculated Prices (ruble per quintal).

	Grodnenskiy	Berestovitskiy		Voronovskiy
		Steers	Calves	
Cattle				
To 150 kilograms		360	320	345
151-170 kilograms		260	230	315
171-200 kilograms		260	230	295
More than 200 kilograms	300	270	235	285
Hogs to 40 kilograms	310	295		325

Analysis shows that the calculated prices adopted in the rayons of Grodnenskaya Oblast generally provide sufficient material interest for participants in cooperative work. In 1978 more than 74 million rubles of earnings was redistributed by means of these prices and 99 percent of the farms finished the year with a profit.

Last year the Trokel'skiy Sovkhoz in Voronovskiy Rayon sold cattle after feeding to the state at an average market price of 272 rubles 63 kopecks per quintal of live weight (average weight was 411 kilograms). The specialized farm paid kolkhozes and sovkhozes delivering young 160-kilogram animals 328 rubles 48 kopecks per quintal. The Trokel'skiy Sovkhoz received 195,000 rubles from sale of this livestock and replacement farms received 390,000 rubles of profit through calculated prices.

The Slonimskiy Sovkhoz sells about 10,000 piglets to the Pobeditel' Feeding Sovkhoz each year at a price of two rubles 60 kopecks per kilogram of live weight. In 1978 the Pobeditel' Sovkhoz earned 698,000 rubles of profit from selling fattened livestock to the state while the Slonimskiy Sovkhoz received 547,000 rubles. The farms together produce 259.4 quintals of pork per 100 hectares of arable land with a level of profitability of 37.2 percent at the feeding sovkhoz and 48.4 percent at the replacement farm.

The different levels of profitability here do not indicate differences in the economic efficiency of production. It is common knowledge that a replacement farm needs almost three times as much fixed capital to obtain a quintal of weight gain in hogs as would be needed at a feeding farm. Ongoing expenditures, including labor inputs, are much higher. The methodology and principles of constructing calculated prices take account not only of current expenditures, but also the capital-output ratio of production and the necessity of renewing and expanding fixed capital.

The mutual accounts used in Vitebskiy Rayon in raising heifers not only provide normal conditions for reproduction and adequate material interests for cooperating farms, but also allow a significant rise in the cost of livestock added to the basic herd. The specialized farm pays the suppliers of young animals up to one month of age at a price of one ruble 70 kopecks per kilogram of live weight (at the level of the substantiated prime cost of raising the animals). The price for heifers compensates the specialized farm for production costs and insures it a level of profitability in production of milk and beef at farms that produce these products.

An elite heifer costs a dairy farm 800-850 rubles.

Well substantiated calculated prices are being used successfully at many other cooperating farms. As production is refined and the quality of output rises the level of the calculated price may change substantially. The Mir Sovkhoz-Combine in Baranovichskiy Rayon, for example, sells virtually all its livestock at a high weight with a high degree of nourishment. The enterprise receives a great deal of profit and is able to pay replacement farms seven rubles 90 kopecks per kilogram of live weight for young feeder cattle.

Experience confirms that calculated prices are most appropriate for cost accounting relationships and make it possible to pass on all earnings from sale of output to the cooperating farms without delay. In its circulation this money gives the kolkhozes and sovkhozes additional income during the very same year. These prices do not complicate questions of planning, finance, and credit and it is possible to determine the results of the work of each kolkhoz and sovkhoz more precisely.

In addition to calculated prices, another, combined form of mutual accounts is being used in the republic. In this case calculated prices are used during the year but profit is distributed at year's end. This system has become most widespread in Gomel'skaya Oblast. By decision of the oblast executive committee in 1975, uniform calculated prices for young animals were established for all rayons of the oblast (from one ruble 60 kopecks to five rubles per kilogram depending on weight). The system for distribution of profit was also established.

The Kolkhoz imeni Uritskiy, for example, pays for young animals weighing up to 40 kilograms at a calculated price of five rubles per kilogram of live weight during the year. At year's end 35 percent of the profit actually received is distributed among participants in supplying the animals, while 45 percent goes to farms for feed turned over to the complexes, and 20 percent is paid for share participation by farms in construction of the complex. The Kolkhoz imeni Uritskiy provides virtually all the feed. An economically advantageous form of participation in feed deliveries has been found for the other kolkhozes. They sell volumes of agricultural output to the state on behalf of the Kolkhoz imeni Uritskiy, which is released from this obligation, and this is hypothetically counted as feed.

Supplementary payments are established for these volumes of output on the basis of the efficiency determined at the complex for the use of the feeds in beef production. Crop output is assessed by its feed qualities, and animal husbandry output (milk) by the feed required to produce it.

Considering the calculated price and profit distributed at year's end the cooperating farms received 11 rubles 15 kopecks per kilogram of live weight of young animals in 1978. In addition, 342,000 rubles was paid from the profit of the complex for the plan for sale of output that was fulfilled by the special farm, plus 666,000 rubles for share participation. Of the total profit received last year (4,255,000 rubles), 2,446,000 rubles beyond the calculated prices was given to the cooperating farms.

The Demekhi Sovkhoz in Rechitskiy Rayon has adopted a somewhat different procedure. At this farm young cattle delivered for feeding at weights of 280 kilograms and more are paid for at the calculated price of two rubles 80 kopecks per kilogram of live weight. At year's end, before compiling the balance, all above-plan profit actually received is distributed. This amount is divided with due regard for the plan for sale of agricultural output taken from the Demekhi Sovkhoz and performed by other cooperating farms for delivery weight of young animals and weight gain obtained at the complex.

Some interfarm enterprises can and should distribute profit without the use of calculated prices.

In certain cases low-profitability interfarm enterprises (for example sheep-raising units) require that the cooperating kolkhozes and sovkhozes set up a special fund to cover losses and continue developing production.

Analysis shows that there are some serious problems in current practices of organizing economic mutual relations with interfarm cooperation.

Calculated prices are often ratified without adequate economic substantiation; established principles and techniques for developing them are violated. There have been cases of ratification of the same calculated prices for an oblast or republic while farms are working under different conditions. There have also been cases of withdrawal of balance profits for redistribution at special farms, which undermines the foundations of economic accountability and negatively affects specialization and concentration of production.

The mutual relations of cooperating farms are not always put in correct legal form. The legal status of cooperating farms, especially special farms which perform the functions of interfarm enterprises, is not clearly formulated. Sometimes mutual relations are organized without appropriate contracts or the procedure for settlement of accounts is determined after the end of the fiscal year.

Quickly solving these problems will have a beneficial effect on the development of the farms and accelerate the process of evening out the economic conditions of economic activity by the kolkhozes and sovkhozes.

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AGRICULTURAL DEVELOPMENT OF BAM ZONE DISCUSSED

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 79 pp 9-12

[Article by Yu. A. Novoselov: "The Production Base of the BAM Zone: Experience, Analysis and Search"]

[Text] The decisions of the 25th CPSU Congress during the current five-year plan have provided for accelerated development of the eastern regions of the country. Whereas industrial production as a whole has increased by 35-39 percent throughout the country during the 10th Five-Year Plan, it has increased almost 1.5-fold in Siberia. Siberia should provide the main increase of oil production in the country, the major part of natural gas and aluminum production and a significant part of chemical products. The rapid growth of the economic potential of Siberia and the Far East will regularly lead to an increase of cities and industrial centers and to an increase of the population, which now comprises several tens of thousands of people in the BAM zone. The population in this region will increase significantly in the future. The need for food products will also increase accordingly. In this case the increase of the population of the cities newly formed in this region is occurring and will occur mainly due to youth and to an increase of the birth rate, which raises the need for a sharp increase of meat, whole milk, egg and vegetable production. In his speeches during his trip to Siberia and the Far East and in a speech at the July (1978) Plenary Session of the CPSU Central Committee, Comrade L. I. Brezhnev emphasized the special importance of producing these food products under local conditions. That is why such close attention must be devoted to creation of a firm food products base in the BAM zone. We opened up publication of a series of materials on the problems of procurement and food supply of the BAM zone with the article of deputy chairman of the Siberian Department of VASKHNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] Yu. A. Novoselov.

The Strategy of Development is Complexity

The Baykal-Amur Mainline Railroad is one of the most important construction projects of the 10th Five-Year Plan. Its construction will make it possible to bring the richest natural resources of this vast region into national economic use. This area contains large and in some places unique reserves of coking pit coal, iron ore, copper, serpentine asbestos, apatites, polymetal ores and also timber and hydroengineering resources. These resources can be delivered to the service of the Soviet people only if there are good transport communications with the existing industrial centers, which the Baykal-Amur Mainline Railroad has been called upon to do.

Its construction is being carried out at fast rates. Work trains have already arrived at the Buryat ASSR, at Neryungri, where the firstborn of the BAM zone development has been created--the Neryungri open-pit coal mine; the BAM-Tynda section has been turned over for permanent operation and rails have been laid in other sections. The cities and worker settlements of Tynda, Neryungri, Berkakit, Severobaykal'sk and others have appeared and are growing here.

To study the opportunities for agricultural development of these severe conditions, the Siberian Department of VASKhNIL, jointly with institutes of other agencies, organized complex studies, directed tens of expenditions and created 19 support points. Agroclimatologists, soil scientists, reclamation scientists, agronomists, animal breeders, economists and specialists in mechanization and construction were included in study of the BAM zone. The main trends of organization of the food products base here were determined as a result of the joint work.

As indicated by the studies of scientists, the food products base of the BAM zone should be created by an efficient combination of local production of low-transportable and perishable products with import of other types of products (meat, grain, oils, cheese and partially of vegetables and potatoes) from the adjacent and southern regions of Siberia and the Far East and of heat-loving vegetables, fruits and melon crops mainly from the southern regions of the country. Whole milk and sour milk products, primarily for children, patients and workers with heavy working conditions, should be produced directly near the large cities of the BAM zone. Vegetable growing in protected soil, poultry raising directed toward egg production, potatoes and vegetables of local variety in open soil in the presence of climatic, land and labor resources and also production of succulent and coarse fodders for cattle will be developed. These two trends--local production and import from adjacent regions--cannot be contrasted.

In some regions of the BAM zone (the Kazachinsko-Lenskiy Rayon and the Muyskaya Trench), the conditions for agricultural development are no worse than in the southern and adjacent regions; therefore, the frontal lands in the Kazachinsko-Lenskiy Rayon of Irkutskaya Oblast can be developed. One cannot refuse to develop tens of thousands of hectares of convenient fertile lands in the BAM zone.

Taking into account the variety of conditions of one or another sections of the BAM route, the proportions in combination of local production and import will be distinguished. For example, Zeyskiy Rayon will not only completely provide itself with products, but may also supply them to adjacent rayons. Importation will predominate in the supply of Kalarskiy Rayon of Chitinskaya Oblast, the same as in southern Yakutiya.

Agricultrual development of the BAM zone will be accomplished in several stages. The existing kolkhozes, sovkhozes and auxiliary farms, which number approximately 20 here, will be developed first. Milk, vegetable and potato production can be increased within a short time if they are provided with mineral fertilizers, equipment, kombifeeds and young breeding stock. The lands on these farms must be additionally developed in priority and milk farms and greenhouses--initially plastic film and later winter greenhouses--must be constructed. The experiments of scientists of the Siberian Institute of Animal Husbandry convincingly showed that cattle productivity can be increased to 3,000 kilograms of milk annually with efficient feeding, which will permit a 1.5-fold increase of milk production per head.

Programs which do not require significant capital investments and recruitment of large numbers of workers: improvement of the structure of sown areas, an increase of seed quality, an increase of fertilizer deliveries, surface and root improvement of hayfields and pastures, development of more fertile flooded lands and ponds that do not require large expenditures, improvement of the bloodlines of the herd and also construction of plastic film greenhouses, can be realized during the first stage. An economical version of a greenhouse with double film covering was worked out by scientists of the Siberian Institute of Mechanization and Electrification of Agriculture. Testing of this greenhouse under the conditions of central Yakutiya showed that it can be operated with heating even in winter and that 21.8 kilograms of cucumbers were produced from one square meter. This greenhouse is tens of times less expensive than winter glass greenhouses in capital investment. Similar greenhouses are now being tested at Chul'man and in Kazachinsko-Lenskiy Rayon.

Simultaneously with strengthening existing farms, one must begin to organize agricultural enterprises near the largest cities and worker villages--Tynda, Neryungri, Severobaykal'sk and Nizhneangarsk. There are land tracts here suitable for development, technical-economic feasibility studies have been worked out for these sovkhozes, there is planning documentation and the rates of agricultural development near these populated points is lagging behind the growth of the population.

Siberian scientists have introduced proposals to develop the Sovkhoz Zarya, to develop lands of the "Set'" plot and to organize the Sovkhoz Kochkovatyy.

During subsequent stages when new territorial-industrial complexes (TPK) and industrial junctions are formed, agriculture should become an organic integral part of them. Even at the stage of preplanning developments and technical-economic feasibility studies for constructing industrial enterprises, problems of a food product base should be carefully considered and this section should become just as compulsory in planning, construction and development of industrial combines as sections for water supply, electric energy and work force supply. The experience of developing the Bratsk-Ust'-Ilinsk and other TPK teaches this. Agriculture should be developed within the framework of a unified national economic program with financing from a unified source, as is provided, in development of the Neryungri coal field, in regions of new industrial development, especially with severe climatic conditions. An agricultural complex consisting of a dairy farm, greenhouse combine, poultry plant and creamery will be developed here from funds of the Ministry of the Coal Industry.

In those cases when several not very large industrial enterprises exist in some town, their resources can be combined and a single large dairy farm can be established.

A large volume of work remains to be done by reclamation organizations. A total of 100,000-110,000 hectares of land, of which 50,000-55,000 are cultivated, can be developed. There are no water management construction organizations of in most regions of the BAM zone and reclamation detachments and PMK [Mobile mechanized column] must essentially be newly created and search and planning must be carried out within short deadlines. Construction of dairy farms is already under way at some objects and they have not begun development of new lands since there is no planning documentation.

Importation of agricultural products should be planned on new organizational principles. Our investigations showed that so-called rear bases can be formed, the main task of which is production of products to supply specific industrial centers of the BAM zone. These rear bases should include the Barguzin Basin of the Buryat ASSR to supply products to the Severobaykal'sk TPK and to the Udokan Industrial Center, the Jewish Autonomous Oblast for the Ural and Komsomolsk Industrial Centers and the central rayons of Amurskaya Oblast for the Southern Yakutsk TPK and Tynda.

Organization of rear bases means not simply re-distribution of product deliveries, although this must be done during the first stage. To ensure stable production of agricultural products, extensive measures must be implemented to intensify agriculture: reclamation work must be carried out, dairy farms must be established, meat sovkhozes and vegetable- and potato-growing farms must be organized. All this requires additional capital investments, delivery of equipment and fertilizers and recruitment of a work force.

Intensification of agriculture at rear bases is feasible and necessary not only from the "BAM" viewpoint. An increase of the production of agricultural products is important for improving the food supply balance of Siberia and the Far East as a whole. There is the possibility of additional development of land for cultivation and hayfields in regions allocated as rear bases. The largest land tracts suitable for this are concentrated here. The rear bases are located under relatively better climatic conditions, the experience of agricultural development has been accumulated in them, there are sovkhozes, kolkhozes and workers and they are connected by transport communications to the BAM zone and to existing industrial centers.

Development of agriculture in the BAM zone and at rear bases is a complex problem. First, as was shown above, agriculture should be developed in combination with industrial development of the BAM zone. Second, proportional development of all the interrelated sectors of agriculture--dairy cattle breeding and fodder production and vegetable growing in open and protected soil--should be provided. Third, the rates and proportions of agricultural development in the BAM zone and at rear bases should be taken into account since the relationships between them are considerably more diverse and complex than in traditionally agricultural zones. The rear bases will supply not only food products for the population of the BAM zone, but will also grow seeds and young replacement stock, will produce rough and concentrated feeds and in some cases will receive young stock for fattening from farms of the BAM zone. In short, this is a unified organism and a single system called upon to completely supply the population with food products. And if construction of the vegetable- and potato-growing sovkhozes in the BAM zone is delayed, this means that more products will have to be provided by the rear bases and vice versa. Hence, it follows that the sovkhozes of the BAM zone and the rear bases can be provided with material resources according to a single complex program.

Fourth, parallel with development of agriculture and in some cases with surpassing rates, the sectors and enterprises should be developed which service agriculture and which provide processing, storage and sales of products. Construction of these objects is no less an important task than construction of greenhouses and dairy farms. The vegetable and potato supply could be improved even now if the potato-storage capacities were adequate at all the sections.

Development of a food production base also depends on construction of roads and on the capacity of the construction base. Part of the products from the Barguzin Basin could now be supplied to the northern rayons of the Buryat ASSR, but the Tazy-Uoyan highway is in poor condition. Construction of even the simplest roads and bridges across rivers and streams would even now make it possible to increase the procurement of feed and this means of milk production. The highway adjacent to the route will be of important economic significance for agricultural and procurements.

Not only the need but also the feasibility of developing agriculture in the regions of the BAM route was convincingly demonstrated by the experience of scientists, indicated by numerous experiments. High yields of potatoes, vegetables and fodder crops have been produced at the support stations For example, the yield of potatoes at the Zeysk support station reaches 300 quintals per hectare with the completely mechanized method of cultivation, while it reaches 180-240 quintals on other sections. One may assume that this level is achievable for all farms of the BAM zone in which it is recommended that potatoes be grown.

Introduction of the technology developed by scientists makes it possible to produce stable yields: 400-600 quintals per hectare of white cabbage, 350-400 quintals of root vegetables and 100-150 quintals per hectare of onions.

Feed crops could be cultivated successfully. The yield of hay from annual and perennial grasses reaches 45 quintals per hectare or more on all the sections. An even higher yield has been produced in the Barguzin Basin.

However, it should be emphasized again that the conditions in the BAM zone are diverse and therefore the technology of potato, vegetable and feed production on one or another sections will differ and the varieties, norms, methods and periods of fertilizer application, soil cultivation systems and plant care systems will be different. Detailed production recommendations have been worked out by scientists and turned over to the producers. Of course, to provide a high yield, additional mineral fertilizers must be allocated, without which it is impossible to produce high and stable yields of potatoes, vegetables and feed crops, since the natureal fertility of the soils is low on many sections. Tractors and potato-harvesting combines must also be allocated, sorting stations must be constructed and generally all production processes must be mechanized to the maximum extent.

There are good conditions in many regions for development of reindeer farming, which makes it possible to improve the meat balance. The development of meat livestock breeding and herd horse raising for meat will be effective in Kurumkanskiy Rayon and the southern part of Bauntovskiy Rayon of the Buryat ASSR and some other rayons and swine raising will be effective at Komsomol'sk-na-Amure and Neryungri. Reindeer breeding, horse breeding and meat livestock breeding, first, do not require large capital investments and labor resources and second, the feed resources which are inaccessible to other types of cattle will be used.

The direct relationships on production and sales of products by the "sovkhoz-ORS [Department of workers' supply]" or "by-product farm-store" scheme should be more widely distributed. Organization of procurement, transport and sales of the products of the hunting industry--the meat of wild reindeer and wild fruits and berries, of which there are many here--presents special complexity. But procurement can be significantly increased with improvement of the system of selling these types of valuable products.

Creation of a good supply base of the BAM is a complex problem in all aspects. Its successful solution depends on strengthening the existing and organization of new sovkhozes and auxiliary farms, completing an extensive volume of reclamation work, development of a rural construction industry, construction of highways, a material-technical procurement base, vegetable and potato storehouses, creameries, meat combines and slaughterhouses and implementation of measures to recruit and strengthen the labor resources. The BAM should and will have a strong food supply base.

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PROBLEMS IN INCREASING AGRICULTURAL PRODUCTIVITY IN SIBERIA

Moscow VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI in Russian No 9, Sep 79 pp 21-29

[Article by N. Z. Milashchenko, corresponding member of VASKhNIL [All-Union Lenin Academy of Agricultural Sciences], Siberian Scientific-Research Institute of Agriculture; V. V. Buzmakov, candidate of agricultural sciences, All-Union Order of Lenin and Order of the Labor Red Banner Academy of Agricultural Sciences imeni V. I. Lenin--VASKhNIL: "Problems in Increasing Agricultural Productivity in Western Siberia"]

[Text] The successful fulfillment of the decisions of the July Plenum of the CPSU Central Committee (1978), "On the Continued Development of Agriculture in the USSR," depends to a large degree on improving zonal systems of farming--on a more efficient utilization of land fertility and primarily of arable land. These questions are especially significant for Western Siberia, where there are 19.9 million hectares of arable land.

In this region the farming conditions are severe, but varied, thus determining the clearly expressed zonality of the agroclimactic conditions. In the drier steppe zone the annual quantity of precipitation fluctuates between 240 and 300 mm, 40-50 percent of which occurs during the three summer months. The non-frost period here lasts up to 130 days, and the total positive temperatures here is 2,000-2,500°.

In the moister taiga and subtaiga zones and in the foothills the annual amount of precipitation fluctuates from 450 to 600 mm. The frostless period lasts only 80-115 days and the sum total of positive temperatures (higher than 10°) is 1,450-1,775°.

The soil cover is also varied. In the steppe and in the southern part of the forest-steppe chernozems predominate; in the northern forest-steppe--solonetz, solonetzic and grey forest; and in the subtaiga and taiga zones--podzols, sod-podzols and bog soils.

In Western Siberia the most productive and economically advantageous agricultural crops are spike crops, primarily spring wheat, barley, oats and several others.

The following facts speak about the possibilities of Western Siberia in grain production. During the last 8 years grain output per 1 hectare of arable land has been 7-8 quintals. In experimental enterprises of scientific institutions and on many leading farms of various natural zones it has reached 10-12 quintals, and with the more productive crop rotations and bare fallow--13-14 quintals.

There are also possibilities for raising feed crops. Whereas the total productivity of 1 hectare of plowland in Western Siberia is 13-14 quintals of feed units on the average, on experimental plots of scientific institutions and in leading enterprises it is 16-22 quintals of feed units. In the best specialized crop rotations productivity equals 25-30 quintals of feed units.

The achievements of agricultural science and leading practices permit us to confirm that there are real possibilities for increasing grain productivity per 1 hectare of arable land in Siberia up to 10-12 quintals (a yield of 17-20 quintals per hectare) with a total productivity of a hectare of field lands equalling 18-22 quintals of feed units. Naturally, the productivity of arable land will vary according to zone and soil type.

Despite the variations in the agroclimactic conditions of different zones affecting the development of agriculture in Western Siberia, there are many problems the zones have in common. Erosion processes, which decrease soil fertility, limits the growth of fertility of arable land in many rayons. In Western Siberia eroded and potentially erodable arable land occupies 7.7 million hectares (43.4 percent). In accordance with the recommendations of T. S. Mal'tsev as well as of the All-Union Institute of the Grain Industry (A. I. Barayev, 1975), scientific institutions have developed a complex of organizational-economic, agrotechnical, forest reclamation and other methods for most oblasts, providing a basis for a general scheme to protect the soil against erosion. These plans of zonal complexes of essential measures have been developed while taking soil-erosion regionalization of territories into account.

The scientists of Western Siberia not only help to introduce the complex of counter-erosion measures, but also continue to improve them. A zonal technology for cultivating crops is being developed for the chernozem soils of the plain. It is based on the principles of minimal and flatcutter cultivation of crops utilizing the more improved working organs of agricultural machinery and energy-efficient tractors.

Altay scientists are developing an original system of contour slope farming (A. N. Kashtanov, 1974) for levelled reliefs, especially in the foothills of the Altay.

The most important reserve for raising the productivity of crops is the more efficient utilization of soil moisture and atmospheric precipitation. In Western Siberia a complex of measures is being applied for accumulating and preserving moisture in the soil. It includes a system of flat-cutter cultivation of soil (on the basis of minimalization) with a preservation of stubble on the surface for accumulating snow and for avoiding wind erosion and supplementary snow retention. Snow compacting and swathing equipment is very effective. It permits workers to begin snow retention procedures sooner and to accumulate 20-30 mm more moisture than with the use of snow plows. The cultivation of windbreak vegetation (mustard, sunflowers and others) on fallow fields enables us to increase water reserves in the meter layer of soil by 60-80 mm for grain crops. In this case the supplementary soil moisture in coordination with fertilizers encourages the growth of productivity of grain crops by 5-6 quintals per hectare.

In zones with water erosion or wind and water erosion, water-retention methods are supplemented with special methods to avert water currents and soil erosion--deep non-mouldboard cultivation across the slope, contour cultivation, slotting, etc.

Success in the development and introduction into production of methods of accumulating moisture in the soil emphasize the priority need of utilizing water by plants more efficiently. In many enterprises the total expenditure of precipitation and soil moisture is 15-20 mm for cultivating 1 quintal of grain. This indicator can be decreased to 10-12 mm, which has already been done in most experimental enterprises of scientific institutions.

The moisture expenditure for harvest formation increases primarily as a result of the unbalanced nutrition of the plant as well as because of harvest losses due to weeds and plant diseases, especially root rot.

Plant nutrition that is balanced in elements is one of the most effective ways to fight drought. Unfortunately, in Western Siberia there is a negative balance in nutritional elements in the soil for vegetation. Thus, for a planned productivity of 20 quintals per hectare of grain crops, about 70 kilograms per hectare of nitrogen are removed. In Western Siberia the basic source for nitrogen in the soil is organic substances. Most Siberian chernozems contain a relatively large amount of humus--4-8 percent, but the nitrogen supply for crops is still smaller than in the European section of the USSR with the same types of soils. This is explained by the fact that in Siberian soils microbiological activeness which secures the mobilization of organic substances and the accumulation of nitrogen and other elements for plant use is often held back during the summertime because of a shortage of moisture and in the spring and fall because of the small amount of warmth in the soil. This is especially true for the northern and eastern rayons of Western Siberia. The supply of nitrogen to plants as a result of soil resources fluctuates sharply depending upon weather conditions. Because of the ongoing nitrification during the vegetative period grain crops as a rule do not receive sufficient amounts of nitrogen. There is enough only to produce a harvest of 8-12 quintals per hectare. This is confirmed by experience with grain monocultures without the use of fertilizers and by the practice of farming without fallow.

Siberians are very familiar with the method of accelerating the nitrogen cycle in the soil--bare fallow. In a fallow field on chernozems there are up to 150 kilograms of nitrated nitrogen; on grey forest soils that are poorer in organic substances there are up to 60-80 kilograms.

In order to supply grain crops with nitrogen and to have a stable yield of 17-20 quintals per hectare at the achieved level of development of the chemical industry in farming it is essential to use 18-20 percent of the arable land for bare fallow in, for example, the steppe zone of Western Siberia.

In moister rayons the area under bare fallow can be curtailed somewhat and this must be compensated for by the introduction of nitrogen fertilizers and by the expansion of sowing areas for legumes. From the practice of farming we know that after the harvesting of a full-value harvest of peas or clover it is possible to produce 20 quintals of grain per hectare one time without nitrogen fertilizers. According to the data of the Tarskaya Agricultural Experimental Station (subtaiga ozone), in the soil of clover furrows plowed in August the reserves of nitrated nitrogen fluctuated from 8 to 10 milligrams per kilogram of soil or 50-60 kilograms per hectare of nitrogen. After grains there were only 2-4 milligrams per kilogram or 12-20 kilograms per hectare of nitrogen; after intertilled crops--4-7 milligrams per kilogram or 26-42 kilograms per hectare of nitrogen.

If 16 percent of the arable land is allocated for bare fallow it is necessary to apply 20 kilograms of nitrogen per hectare. In taiga and subtaiga zones, where it is recommended to allocate 14 percent of the arable land for clean and green-manured fallow, 40 kilograms of nitrogen per hectare is required. On sod-podzol and shallow-humus grey forest soils the use of nitrogen must increase to 60 kilograms per hectare of active substances, based on full compensation for nitrogen removal by the harvest.

In addition to fallow and nitrogen fertilizers, in the forest-steppe it is necessary to expand the area in peas and other legumes by 3-4 times (up to 7-10 percent of the arable land in the forest-steppe, and up to 20-25 percent mainly in clover in the subtaiga and taiga zones).

The optimal solution to the problem of supplying crops with nitrogen will enable us to cultivate high-quality harvests with a large protein content. Only in this case will we be able to guarantee the production of wheat that will meet the standards for strong grain.

In Western Siberia there must be no less than 16 percent clean fallow on arable land, but actually half this amount has been allocated for this purpose. Thus, only 7.7 percent of arable land was in fallow for the 1978 harvest in Western Siberia. Because of the insufficient quantity of clean fallow 30-50 percent of grain crops are distributed on plots over 3 years after clean fallow.

Ignoring crop rotations that include bare fallow results in a sharp decrease in the productivity of grain crops. According to generalized data, in Western Siberia on the average for 1971-1975 the grain yield per 1 hectare of grain crops was: on fallow--18.6 quintals; during the second year after fallow--15.5 quintals; during the third year after fallow--11.9; after long-term sowing of grains following grains--8.1 quinals.

Table 1

The Effect of Clean Fallow and the Fund of Winter-Plowed Fields on the Elements of Soil Fertility and the Yield of Spring Wheats (Data of SibNIIZKhOZ [Siberian Order of the Labor Red Banner Scientific-Research Institute of the Grain Industry])

Indicators	Number of years of observation	Predecessors	
		Clear fallow	Grains
Supplies of productive moisture in the meter soil layer prior to the sowing of spring wheat (mm)	34	141	96
Supplies of nitrated nitrogen in the 0-40 cm soil layer prior to the sowing of spring wheat (kg/ha)	7	144.5	60.5
Weed-infestation of spring wheat crops:			
number of weeds (number/m^2)	6	22.5	207.5
in total crop biomass (%)		9.1	31.5
Average productivity of spring wheat (quintals/ha)	34	19.4	13.2
Including during years with an average moisture supply	12	23.2	15.5
During very dry years	13	15.8	7.3

A decrease in yield in crop rotations after fallow cannot be explained solely by the insufficient nitrogen supplies for the plant. In dry regions fallow is a dependable means of creating emergency reserves of moisture in the soil which are usually equal in value to moisture-supplying irrigation (Table 1). In addition, fallow in crop rotations is the most effective means of protecting grain crops from fungus infections in the soil. Under the conditions of Western Siberia with repeated sowing of wheat (or barley) this infection develops rapidly in the soil, resulting in the disease of the root system of grasses. Harvest losses due to root rot reach 15 percent (V. A. Chupkina, 1973).

Curtailing the area of clean fallow significantly increases the need for fertilizers and chemicals to protect plants. This is supported by the work results of experimental-teaching farms of scientific enterprises. In order to produce 10.8 quintals of grain per hectare the Omskoye experimental enterprise of SibNIISKhOZ required 38 kilograms of active substances in fertilizer with 14.4 percent of its land in fallow. In the Novostroyka OPKh [Experimental enterprise]of the Kemerovskaya SkhOS [Agricultural Experimental Station], which is also located in the chernozem forest-steppe, but having a large quantity of precipitation, 80-90 kilograms of fertilizer per hectare were necessary.

The shortage of clean fallow has a negative effect on the productivity of feed crops as well. With the absence of fallow the feed crops must solve the problem of cleaning fields of weeds, and this results in a sharp drop of their productivity. The possibility of organizing a more effective feed-crop rotation is then eliminated.

The underevaluation of crop rotations with clean fallow has a negative effect on the productivity of farming. The insufficient area in clean fallow in crop rotations results in the decrease in effectiveness of soil-protective technology for cultivating grain crops based on non-mouldboard, flat-cutter and minimal soil cultivation.

It should be said that the effective fertility of clean fallow is still not being utilized efficiently. The fallow field contains moisture, a great deal of nitrogen, but insufficient quantities of phosphorus. According to the data of agrochemical research more than half of the Siberian plowlands have average, low and very low amounts of phosphorus available for crops. On the average for 34 years SibNIISKhOZ produced 19.4 quintals per hectare on clean fallow using spring wheat grain, as compared to a yield of 13.2 quintals per hectare of this crop after grains.

It is typical that under similar conditions in Canada the average grain yield for 1968-1973 was 17.6 quintals per hectare, and after stubble (second crop after fallow)--12.4 quintals per hectare.(I. I. Khoroshilov, 1976). This data reflects the possibilities of soil when it is used without fertilizer.

In recent years Siberian breeders have proposed new varieties of grain crops with a potential yield of 40-50 quintals per hectare and more. These are being introduced successfully. Among them, the Omskaya-9, Sibakovskaya-3 and Almaz wheat varieties are varieties that were developed by Omsk scientists; Novosibirskaya-67--by the Institute of Cytology and Genetics of the USSR Academy of Sciences Siberian Division and the Siberian Scientific Research Institute of Plant Growing and Breeding; Shadrinskaya, Vera and Zaural'skaya--by the scientists of Kurganskaya Oblast.

If plant nutrition on a fallow field is balanced by the introduction of phosphorus fertilizer and if non-lodging varieties of spring wheats of the intensive type (Omskaya-9, Novosibirskaya-67) are sown, then the yield on clean fallow increases to 30 quintals per hectare and more and 35-50 quintals per hectare of grain from these varieties are produced on many variety plots.

Considering the insufficient quantity of active phosphorus in Siberian soils we should replace the removal of this element by plants from the soil while taking its use coefficient into account. In order to achieve an average yield of grain crops of 20 quintals per hectare about 35-45 kilograms per hectare of P_2O_5 are required. The most effective method of introducing phosphorus fertilizers simultaneously with crop sowing is into the rows or locally between the rows at a somewhat greater depth than for seed sowing. In this case an increase of 2.5-3 quintals in yield is achieved per 1 quintal of standard mineral fertilizers.

The optimization of nutrition of new varieties of grain crops is the most dependable and effective method of rationally utilizing soil-climatic resources, especially atmospheric precipitation.

Weeds have a great effect on the productivity of arable land in Western Siberia. With a short vegetative period the period of biological activity of weeds practically coincides with the vegetative period of the cultivated crops. This significantly complicates the fight with weeds, especially when soil-protective (flat-cutter) cultivation is employed.

Actual grain losses due to weeds are up to 10 percent for the first wheat after fallow and increase to 25 percent and more during the fourth-fifth years in crop rotation. This is confirmed by experience with herbicides and manual weeding.

A system of measures to fight weeds has been developed for Siberian conditions. It includes organizational, prophylactic and extermination measures. The basis for this system is crop rotations with clean fallow (N. Z. Milashchenko, 1978).

With fallow cultivation the soil is cleared of roots of perennials and the quantity of seeds from weeds decreases sharply. Here the total weed infestation decreases by 3-4 times and of perennial weeds--by 10-15 times. The positive consequences of fallow on weed infestation of crops continues for no fewer than 3 years.

In connection with the fact that the composition of weeds in crop rotations if formed from varieties that have adapted to reproduction on a background of zonal technology of crop cultivation, further decreases in harvest losses due to weeds is possible as a result of the use of herbicides. Preparation 2.4-D is widely used on grain crops. With their systematic utilization on a background of flat-cutter and minimal cultivation of the soil there is a sharp decrease in the harmfulness of offset and annual dicotyledonous weeds, but the proportion of bristlegrass is increasing.

Based on the laws of forming a variety composition of weeds in crop rotations there has been a theoretical basis for agricultural requirements for a spectrum of action of herbicides which will secure a simultaneous elimination of the most dangerous weeds.

Preparations of the diamet type appear to be most promising for eliminating all dicotyledonous weeds in wheat crops cultivated according to a technology based on soil plowing.

It has been shown possible in principle to eliminate dicotyledonous weeds and bristlegrass in wheat crops with flat-cutter and minimal cultivation of soil. However, preparations for the extensive use of these methods have not yet been developed.

The utilization of herbicides whose spectrum of action corresponds to the composition of the most harmful weeds is the most important means of raising the agrotechnical and economic effectiveness of chemical weeding. On the basis of data on the effectiveness of herbicides depending on their spectrum of action, the variety composition of the weeds and the level of weed-infestation and considering the actual distribution of spring wheat according to predecessors, up to 50 percent of Siberian crops should be sprayed with herbicides. On these areas with the use of 2.4-DA we can guarantee an increase in yield of 1.5 quintals per hectare. With the spraying of preparations whose spectrum of action fully corresponds to the variety composition of weeds in crops yield can increase 2.5 quintals per hectare. Unfortunately, there are no such herbicides in production as yet.

An economically-justified increase in yield from chemical weeding occurs with a level of infestation corresponding to the proportion of weeds in the total harvest mass--15-20 percent and higher, which is characteristic in crop rotations for the second and subsequent crops after fallow.

In dry steppe and forest-steppe rayons of Siberia the use of herbicides is expedient also in connection with the necessity to curtail the number of mechanical soil cultivations. The utilization of herbicides on fallow fields encourages the preservation of vegetative waste on the field surface, which impedes the development of erosion processes.

Even in the distant future with full and perfected complex chemization of farming herbicides will not be able to eliminate clean fallow from crop rotations, especially in dry zones. Herbicides should be examined as a good supplement to the system of measures to fight weeds, the basis of which is crop rotations with clean fallow.

At the same time other accessible methods should be utilized in the fight against weeds. Thus, to combat offset weeds it is expedient to consider their various reactions with grain crops to the compactness of the soil. The conditions for the vegetative reproduction of offset weeds become worse when the structure of chernozem soil is favorable for grain crops (1.10-1.15 grams/cm^3).

The careful cleaning of soil of roots from perennial weeds in fallow fields and the cultivation of grains in crop rotations in soil of optimal density sharply curtail the conditions of the vegetative reproduction of offset weeds. As a result the degree of weed infestation by weeds from this group decreases, as is confirmed by the stationary experiments in SibNIISKhOZ. On the average for 10 years (1956-1965) with an annual plowing to 20-22 cm there were 2.4 shoots per 1 m^2; with flat-cutter cultivation and deep hoeing--9.4; and with annual cultivation to a depth of up to 10 cm--only 1.2 sowthistle roots.

The results of this experiment are confirmed by the practical experience of sovkhozes in steppe rayons. Thus, in the steppe zone of Omskaya Oblast, where the technology of cultivating grains with minimal soil cultivation in crop rotations including clean fallow and herbicides is being extensively introduced (over 300,000 hectares) there is a noticeable decrease in the harmfulness of offset weeds. Whereas in 1973 41.4 percent of the area in grains was infested with offset weeds to an average or large degree, in 1976 the figure dropped to 19.2 percent, in 1977 to 16.6 and in 1978 to 10.2 percent.

Table 2
The Growth of Gross Grain Yields in Omskaya Oblast Depending Upon the Relationship of Areas in Clean Fallow and Grain Crops (1961-1978)

Years	Grain crops		Clean fallow		Gross grain yield (thousands of tons)	Fertilizer introduced per 1 ha plowland (kg of active substances)
	thousands of hectares	percent of plowland	thousands of hectares	percent of plowland		
1961-1965	2,752.9	62.9	144.0	3.3	1,820	-
1966-1970	2,567.3	58.7	333.9	7.7	2,590	1.0
1971-1975	2,322.6	53.4	493.5	11.3	3,003	4.3
1976-1978	2,375.2	54.5	554.8	12.7	3,185	11.5

In Omskaya Oblast there has been a persistent introduction of crop rotations with clean fallow and of the entire complex of agricultural methods related to them, including soil-protective technology of crop cultivation based on flat-cutter and minimal soil cultivation. Even during dry years (1974-1978) gross grain production in the oblast grew steadily (Table 2). In 1978 361,000 tons of grain meeting the standards for strong wheat were procured.

The effectiveness of the complex of agrotechnical methods for producing large yields that were developed by scientists was tested in the Novoural'skoye OPKh of SibNIISKhOZ, where total land area is 38,700 hectares, including 37,400 hectares of agricultural lands and 35,100 hectares of plowland. The soils are represented primarily by regular chernozems. The climactic conditions on the territory of the enterprises is characteristic for the steppe zone. In 1961 this enterprise was transformed into an OPKh of the institute. At that time only 3.2 percent of the plowland was allocated for clean fallow. An agrotechnological complex based on plowing was used and only 4 kilograms per hectare of active fertilizer was introduced. The grain yield was very low--an average of 5.9 quintals per hectare for 1961-1965. In connection with the transition of the enterprise's agriculture to a scientific base the average productivity of grains increased to 17.2 quintals per hectare during the Ninth Five-Year Plan. In 1971-1975 17.4 percent of the plowland was allocated for clean fallow in the Novoural'skoye and 21 kilograms per hectare of active fertilizer substances (mainly phosphorus) were introduced.

During the first 3 years of the 10th Five-Year Plan the scientists of SibNIISKhOZ and the directors and specialists of OPKh continued to improve the agrotechnical complex of large harvests. The area in clean fallow was increased to 18 percent of the plowland. New varieties of spring wheat from the institute's selection (Sibiryachka-4, Omskaya-9, Almaz) were introduced. Mineral fertilizers began to be used, primarily phosphorus, up to 45 kilograms per hectare of active substance. As a result, despite the drought, in 1976 20.6 quintals per hectare were produced; in 1977--20.1 and in 1978--20.1 quintals of grain per hectare. The total productivity of a hectare of plowland increased in comparison with the Seventh Five-Year Plan by almost 3 times and was 19.7 quintals of feed units. Such results were obtained with a quantity of precipitation that was close to average indicators over a period of many years (Table 3).

Table 3

Amount of Precipitation (mm) in the Novoural'skoye OPKh (1976-1978)

Month	Precipitation			Average indicators over long-term
	1976	1977	1978	
January-March	46	46	27	28
April	18	4	47	17
May	16	19	2	26
June	42	53	51	36
July	52	52	76	63
August	34	47	24	44
September-December	86	77	59	94
For the year	294	298	296	308

The Novoural'skoye OPKh is overfulfilling all plans in the production and sale of grain, milk and meat. Grain production per 1 hectare of plowland equalled 11.2 quintals. At the same time the enterprise produces animal products as well--per 100 hectares of agricultural lands about 200 quintals of milk and 30 quintals of meat are produced.

An increase in the productivity of the enterprise was secured by the introduction of recommendations made by the scientists of SibNIISKhOZ regarding agricultural measures (Table 4).

In the Omskoye OPKh of SibNIISKhOZ a zonal complex for large yields on chernozem forest-steppe soil was fully assimilated. Here 80 percent of the soil cover was regular or leached chernozems. On the average for 1961-1965 only 1.2 percent of the plowland was allocated for clean fallow. The agrotechnical complex employed was based on traditional mouldboard soil cultivation and 40 kilograms of active substance in mineral fertilizer were introduced. The yield of grain crops was 13.6 quintals per hectare, and the output of grain per 1 hectare of plowland--only 6.5 quintals.

During the Ninth Five-Year Plan as a result of the introduction of the complex of agrotechnical measures recommended for the zone the average yield of grains

Table 4
Volumes for Introducing Progressive Agrotechnological Methods in the Novoural'skoye Experimental Enterprise

Agrotechnical Method	Average annual volume according to five-year plans			For 1966-1977
	VII	VIII	IX	
Area of clean fallow (%)	3.2	13.6	17.4	18.0
Flat-cutter and minimal cultivation of fallow(%)	0	32	62	100
Sowing of windbreak crops on fallow (%)	0	230	2,386	6,318
Technology for cultivating grains with flat-cutter and minimal soil cultivation, sowing with SZS-2.1 sower (ha)	0.0	6,678	15.590	15,399
Fall fissure of soils (ha)	0.0	0.0	0.0	2,048
Banking fall plowed land (ha)	18,500	8,223	3,686	0.0
Fertilizer applied (kg/ha of active substance)	4	6	21	45

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reached 21.7 quintals per hectare, even with a slight decrease in the use of mineral fertilizers (38 kg/ha of active substance), but with the presence of clean fallow of 14.4 percent of total plowland. Grain production per 1 hectare of plowland increased from 6.5 to 10.8 quintals.

In 1977 the enterprise produced 22.6 quintals of grain per hectare with an average long-term level of precipitation during vegetation of 196 mm. Each hectare of plowland produced 11.7 quintals of grain; each 100 hectares of agricultural lands produced 226.7 quintals of milk and 75.2 quintals of meat.

In 1978 grain production per hectare of plowland grew to 16.2 quintals with a yield of 30.2 quintals per hectare from the sowing area, and the total productivity per hectare of plowland was 25.9 quintals of feed units.

The high level of grain and animal product production reached by the enterprise was possible in connection with the continued improvement in the technology of cultivating grain crops, with increasing the area of fallow to the optimum for the zone, with an increase in the use of mineral fertilizers to 79 kilograms of active substance per hectare of plowland and with the transition to the sowing of new grain varieties.

For the Non-Chenozem Zone of Western Siberia the growth of productivity of plowland to 18-20 quintals of feed units per hectare is completely realistic. However, to realize this it is necessary to introduce 3-4 quintals of mineral fertilizer (based on standard fertilizer) or 4-5 tons of organic fertilizer on each hectare of plowland in addition to improving agrotechnical methods and introducing highly productive varieties. Thus, in the OPKh imeni Frunze industrial mineral fertilizers were the basis for the system of fertilization of agricultural crops in 1971-1976. Each hectare of plowland received 3.4 quintals of mineral fertilizer and somewhat over 1 ton of organic fertilizer. The output of grain per hectare of plowland on the average over 6 years was 10.1 quintals, and in 1976 it reached 11.2 quintals per hectare. The total productivity of plowland fluctuated around 18.0 quintals of feed units per hectare.

The Kolkhoz imeni Lenin of Tarskiy Rayon in 1971-1976 used 4-5 tons of organic fertilizer per 1 hectare of plowland while mineral fertilizers were in short supply (15 kilograms per hectare of active substances), but in a complex with other progressive methods 17-23 quintals of grain per hectare were produced, i.e. about 10 quintals of grain per hectare of plowland.

There are possibilities for increasing the productivity of plowland, but they are not being fully utilized in the kolkhozes and sovkhozes of the region. This circumstance is explained by the slow introduction of scientific achievements into production and by weak technological discipline. It is essential that the achievements of agricultural science be broadly utilized not only by some farms, but by most sovkhozes and kolkhozes.

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PROCUREMENT OF AGRICULTURAL PRODUCTS DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 11 Nov 79 p 2

/Article by A. G. Yashin, deputy chairman of the USSR Central Union of Consumers' Societies Administration: "All That Is Grown"/

/Text/ The 25th CPSU Congress ordered that the consumers' cooperative take measures to expand the procurement of agricultural products and raw materials, as well as wild fruits, berries, mushrooms, and medicinal plants. A. G. Yashin, deputy chairman of the USSR Central Union of Consumers' Societies Administration tells of how this party task is being accomplished.

Now as the current agricultural year is coming to a close, one can announce with confidence that the task set by the party is being accomplished successfully. The share of the consumers' cooperatives in overall procurement throughout the nation last year comprised 50 percent for potatoes, 34 for vegetables, 21 for fruit, and 67 for melon crops. Moreover, for three years of the five-year plan the plan to procure watermelons and cantaloupe was not carried out. More than the intended amount of potatoes, vegetables and fruits were purchased.

During the current year, procurement organizations of the consumers' cooperative were to purchase for the state plan 15 million tons of potatoes, vegetables, fruits and melon crops while with consideration for their socialist obligations, the purchase of these products according to agreed upon prices was over 17 million tons. Based on the example of the cooperatives of the Gorokhovskiy Rayon of the Volynskaya Oblast a fierce competition developed for the early completion of these plans and socialist obligations. On the eve of the 62nd anniversary of the Great October, the majority of the cooperative organizations reported their successful implementation of the plan.

At the beginning of November, 1,240,000 tons of potatoes in excess of the state plan were purchased. The state plan for procuring vegetables and fruits was carried out. Purchasing continues. Over 30,000 tons of vegetables, 50,000 tons of fruit and over 100,000 tons of melon crops in excess of the plan will be sent to state reserves.

To a decisive extent, our achievements are determined by the increase in the production of agricultural products on kolkhozes, sovkhozes and private subsidiary farms in the population. But of no less importance is the factor of the development of the materials and machinery base of the procurement, trade, and processing organizations and enterprises. In only the last eight years using standard plans they have built receiving-procurement points, storage houses for potatoes, vegetables and fruits, and pickling shops with an overall capacity of 3.3 million tons. This is over 90 percent of the entire materials and machinery base for procurement which the consumers' cooperative has.

Today receiving and procuring and pickling-salting points as well as storage houses for potatoes, vegetables and fruits with a total capacity of 3,540,000 tons as well as over 65,000 seasonal receiving points accept potatoes, vegetables, fruits and other agricultural products. The canning industry of the consumer cooperative which numbers 335 enterprises, will accept and process over one million tons of agricultural products.

This, of course, does not mean that such an important area of activity has already achieved the desired order. The procurement and purchasing officers of consumers' cooperatives have not yet achieved having each farm which completes a contract agreement adhere to it exactly. In order to make up deficiencies on the farms, a large amount of potatoes, fruit and vegetables which are purchased from the people at higher prices, are included into the state reserves. Just last year, for example, the people were paid 250 million rubles in excess of the state purchasing prices. In the current year, the size of such purchases has grown even more.

Henceforth we will increase the responsibility of the consumers' cooperative for purchasing agricultural product surpluses from individual farms, expand the practice of concluding agreements between merchants and the cooperative or its procurement office. Each kolkhoz farmer and worker and employee must be certain that the products which he received will definitely be purchased at previously established prices. At the same time, it is necessary to comprehensively strengthen state procurement discipline and increase the authority of contract agreements with farms.

This totally relates also to the problems of purchasing fur, eggs, skins, and fur-bearing raw materials. It is particularly important here to improve the quality of the fur. For almost half of it is purchased in flawed and defective form which is the reason why kolkhozes and sovkhozes annually are short by over 100 million rubles. The industry's leather raw materials which are procured and delivered are of very poor quality. There is a possibility considerably to improve the supply to the national economy of fur and fur--bearing raw materials, particularly by using a broader development of amateur rabbit breeding and by expanding animal breeding in hutches. A problem of particular importance is the elimination of shortcomings in procuring wild-growing products and medicinal-industrial raw materials.

All of these issues on the further improvement of procurement among other important problems of the work of consumers' cooperatives will be comprehensively discussed at the 10th Congress of the authorized USSR Consumers' Cooperative. Procurement and purchasing officers and workers in cooperatives will not feel sorry for their efforts to make an effective contribution in solving the main task of our party which is the steady improvement in the well-being of the Soviet people.

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UZBEKS URGED TO CONSERVE AGRICULTURAL LANDS

Tashkent SEL'SKOYE KHOZYAYSTVO UZBEKISTANA in Russian No 8, Aug 79 pp 6-7

[Article by I. Zakirov, director of the Institute of Soil Studies and Agronomy of the Uzbek Academy of Sciences, doctor of agricultural sciences, and professor: "Take Care of and Make Efficient Use of the Soil"]

[Text] The irrigated soils of Uzbekistan are quite unique; as a result of many years of agricultural cultivation they have acquired properties which distinguish them from their natural analogs -- they have become more fertile and highly productive. These soils require an especially careful attitude toward them.

V. I. Lenin pointed out that land is undoubtedly the main means of production in agriculture. Therefore, three articles in the USSR Constitution (12, 13, and 18) are devoted to a careful attitude toward the land and soil as a basic means of production. For example, Article 12 of the Constitution states: "Kolkhozes, like other land users, are obligated to use land efficiently, have a careful attitude toward it, and increase its fertility." A careful attitude toward retaining the soil cover is the most important part of the state-wide policy.

However, it is unfortunately necessary to point out that in recent years cases of the allocation of fertile land for nonagricultural use have become more frequent. According to data of Uzgiprozem, in Uzbekistan in 1977, 26,400 hectares, including 3,000 hectares of irrigated arable land, were allocated to such purposes (corresponding data for 1976 were 14,300 and 1,700 hectares, respectively). A total of 2,100 hectares of irrigated arable land went for the construction and reconstruction of canals and collectors.

A similar position in regard to alienation of the land is observed annually in Uzbekistan. Moreover, the reduction in the amount of productive land involves a chain of negative consequences and in the final analysis affects the republic's economy. These are losses not just for today, but for the future as well. To compensate for the lost fertile irrigated soils it is necessary to develop new lands, and this is a labor of many years.

We know that there are no limits to the growth of productivity of agricultural crops. The road to this is through improvement of care of the soil cover. Soils are cultivated through efficient use. This is especially characteristic of the soils of Uzbekistan where the introduction of crop rotation, the application of high doses of fertilizers, and deep tillage alter their properties and features. Our soils are like they are especially suitable for raising cotton and other irrigated crops of the cotton complex.

It is necessary to point out that despite the development of new lands, the area of irrigated arable land calculated per capita is being reduced rapidly and continuously. Unfortunately we have to recognize here that we do not have a well provided register of the condition and loss of the soil cover. In 1977 state inspectors of land utilization established about 300 violations on an area of 2,248 hectares. About 4,000 hectares of surpluses of personally held land were brought to light. Moreover, there are serious discrepancies concerning cotton acerage in Uzbekistan in official documents of the Uzbek Ministry of Agriculture and Central Statistical Administration. These discrepancies totaled more than 60,000 hectares for the year 1965 and over 70,000 hectares for 1970 (see the annual directories of the Uzbek Ministry of Agriculture and the Central Statistical Administration collection "Narodnoye Khozyaystvo UzSSR za 60 let" [60 Years of the Uzbek SSR National Economy]).

Scientifically sound planning and the organization of efficient utilization of irrigated land are possible only on the basis of systematic and precise, not just a quantitative, but also, mandatorily, a qualitative register of irrigated soils. The existing system of registering provides an idea of the quantitative state of the land, but not always a precise one. The quality of the irrigated soils is not reflected in the register. At the present time irrigated soils do not have an economic value expressed in kind and cost and are not considered in the balance of fixed assets. This is the main reason for insufficiently effective use of irrigated soils and does not promote their preservation and improvement.

The fact that the land is free is one cause of insufficiently effective utilization of the soil in the majority of cases. Many losses of land are related precisely to this factor. The falling of land from agricultural rotation is taking place becuase of gross miscalculations in selecting variants of industrial, power, urban, and road construction. According to specialists' estimates, annually up to half a million hectares of agricultural land is allocated for construction and other purposes throughout the whole country. The volume of capital construction is growing, and the demand for land is increasing. It is necessary to point out here that planners prefer flat, compact areas for construction projects, that is, exactly the areas which are highly productive and well cultivated. Construction is frequently carried on on irrigated arable land, in the suburbs, and in river valleys -- again on the very best land. You see, they do not pay for it. This is why the planners do not look for a more economical variant of the construction project.

These facts have begun to attract attention only in recent years, even though at present the density of plant construction in our country is two to three times less economical than in foreign countries. Fertile suburban land is taken out of agricultural use because of the fact that the city buildings are not tall. Of course, all this does not mean that in general we must reject the transfer of part of the arable land for the needs of our construction projects. But qualitative soil indicators with the relative profitability of the allocated sectors must be the basis for all planned evaluations and be considered in the system of economic estimates. This question requires its own research and solution. One thing is clear: we must regulate the withdrawal of land and have sound criteria for solving this problem.

Scientific and technical progress and the implementation of comprehensive measures in agriculture must assure the obtaining of high and stable yields. To achieve this it is necessary to adapt measures to upgrade the soil's fertility and capacity for cultivation. In other words, all soil conditions must be mobilized to obtain maximum yields.

With presentday development of science and equipment, production effect on the soil is not limited just to the conversion of the substances contained in it from forms inaccessible to the plants into easily assimilated forms; it also changes its natural properties. For example, the introduction of crop rotation, the application of organic and mineral fertilizers, and irrigation changes the chemical composition of the soil and its content of organic substances.

Modern science and practice of the agricultural leaders have confirmed that the application of a scientifically sound system of agronomical and other measures continuously improves soil fertility; the soil becomes more able to be cultivated and to guarantee all the necessary nutrients to the plants being raised so as to obtain maximum yields. Here one must be guided by local peculiarities of each kolkhoz and sovkhoz. One must consider all factors operating to increase the fertility of the irrigated hectare.

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PROMISING METHOD FOR COMBATING BROOM RAPE DESCRIBED

Kishinev SEL'SKOYE KHOZYAYSTVO MOLDAVII in Russian No 10, Oct 79 p 34

[Article by M. Klyuyeva, G. Pamukchi and B. Bonduryanskaya, All-Union Scientific Research Institute of Biological Methods for the Protection of Plants: "Promising Method for Combating Broom Rape"]

[Text] The task of combating broom rape is difficult for the following reasons: it has a high coefficient of propagation -- an average of 25,000 seed to one peduncle, in the soil the seed retains its germinative capacity for a period of 8-10 years, diverse racial forms of the parasite.

One promising method for combating broom rape is the biological method -- using a special phytomiza phytophage (Phytomyza orobanchia Kalt, sem. Agromyzidae, ot. Dyptera).

The phytomiza is sometimes referred to as the broom rape fly, since its life and development are closely associated with broom rape. The larvae of the insect feed on all parts of the broom rape plant providing they are succulent and soft. However, they show a strong preference for the underdeveloped seed, which are found in the form of embryos. The phytomiza winters during the pupa phase in the puparium, which is found mainly in the stalk and root thickening of a broom rape plant. This characteristic of the phytomiza makes it possible to obtain parts of a plant-parasite that have been colonized by it, for subsequent treatment of the fields.

For a number of years, studies have been carried out at the All-Union Scientific Research Institute of Biological Methods for the Protection of Plants on the propagation, collection and storage of phytomiza. The biological material can be procured using a natural supply of phytomiza in branched broom rape, obtained from tobacco and tomato plantings. It was established that phytomiza which winters with sunflower broom rape is contaminated up to 90 percent by accompanying parasites. Thus it is not considered advisable to procure such phytomiza, since in the case of branched broom rape the amount of contamination does not exceed 30 percent.

However, during some years the natural supply of phytomiza on branched broom rape may be very low. In this regard, it is considered advisable to create special nurseries for the propagation of phytomiza. Towards this end, a selection is made of tobacco or tomato tracts having large quantities of branched broom rape and where the density of the natural phytomiza population is intensified using the method of seasonal colonization. Such nurseries were installed at the Gloriya Sovkhoz in Orgeyevskiy Rayon (1976), at the OPKh [Experimental Model Farm] of the Moldavian Scientific Research Institute of Tobacco in Strashenskiy Rayon and on a tobacco plantation in Dubossarskiy Rayon.

The technique for collecting the biological material is very simple. The workers move in various directions over a tract and carefully pull out the broom rape plants together with the root thickenings. During a working day, one collector can fill up 10-15 paper bags with the broom rape.

The broom rape thus collected is placed under a shed or in a loft facility in layers that are not excessively thick, so as to allow the plants to dry out thoroughly. Thereafter they are packed loosely in paper bags and placed in storage.

The following conclusions have been drawn based upon completed studies:

1. For the purpose of procuring the biological material, nurseries should ideally be created for the propagation of phytomiza on branched broom rape in tobacco and tomato plantings.

2. The procurement of diapausing pupae can commence following completion of the flight of the phytomiza in nature (September). Any delay in gathering up the broom rape is considered to be undesirable.

3. First generation phytomiza can also be procured from sunflower broom rape at that time when all ages of the larvae are concentrated in it (July), with its subsequent introduction into diapause prior to the following year.

4. The phytomiza can be stored in any unheated, dry and ventilated facility having an average relative humidity that is no lower than 60 percent. If there is a need for extended storage of the diapausing pupae, conditions involving a temperature (+6°C) that is close to the developmental threshold of the insect will be required. This requirement can be met by a cooling chamber, a vegetable storehouse or a deep dry basement.

In order to delay the development of the phytomiza, the material should be stored in areas having a low temperature for 1-3 weeks prior to its use against sunflower broom rape and for 5-8 weeks prior to its use against branched broom rape. In order to accelerate its development, raised temperature conditions are created for the material for 1-2 weeks prior to treating the sunflower broom rape.

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BIOLOGICAL METHOD FOR COMBATING BROOM RAPE

Ashkhabad SEL'SKOYE KHOZYAYSTVO TURKMENISTANA in Russian No 7, Jul 79 p 33

[Article by S. Setdarov, senior scientific worker at the republic's Experimental Station for Melon Production: "Biological Method for Combating Broom Rape"]

[Text] In improving the yields and quality of melon crops, great importance is being attached to protecting them against weeds and parasitic plants. One weed which causes great damage to melon crops, including musk melons, is the floral parasite -- Egyptian broom rape -- found extensively in the zone of the middle flow of the Amudar'ya River. It parasitizes on plants belonging to 29 families and more than 120 species of cultivated and wild plants. The harm consists of disruption of the metabolism of a damaged plant, accompanied by severe weakening of the plant, a sharp deterioration in the taste qualities of the fruit, a 50-70 percent reduction in yield or complete destruction of the host-plants.

Up until recently, the campaign against Egyptian broom rape in Turkmenistan was carried out using an ineffective and laborious method -- manual weed control, which did not always produced the desired positive effect.

During the 1971-1975 period, we succeeded in carrying out a check on certain agrotechnical and chemical measures for combating broom rape which had been developed earlier for the soil-climatic conditions found in the zone of the middle flow of the Amudar'ya River and during the 1974-1975 period a production test was carried out on a biological method which involved the use of a highly specialized phytophage -- phytomiza flies. The test was carried out using a Samarkand phytomiza population (Ts.G. Bronshteyn's method, 1970).

The biological material was obtained from a biological methods laboratory in the city of Samarkand. The test was carried out in two variants: 1. 40 hectares of phytomiza treated fields with an additional top dressing of phytomiza in a 20 percent sugar syrup; 2. 25 hectares of phytomiza treated fields with no additional top dressing; 3. two hectares of a controlled non-phytomiza treated field, located at a distance of 1.5-2 kilometers from the phytomiza treated fields.

Effectiveness of the Samarkand Phytomiza Population

Treatment Methods Using Broom Rape	Degree of Infestation of Broom Rape by Phytomiza, %	Overall Yield of Musk Melons Quintals per Hectare	Content of Dry substances in Juice of Fruit, %	Economic Effectiveness, Rubles Per Hectare
Local phytomiza-control (1974)	20.7	167.6	12.3	-
Samarkand phytomiza, with a top dressing of 20% sugar syrup (1974)	48.6	191.0	13.7	207.0
Samarkand phytomiza, with no top dressing of sugar syrup (1974)	62.5	213.3	14.2	406.6
Samarkand phytomiza, with no top dressing of sugar syrup (1975)	88.8	236.3	14.6	513.1

The treatment of the fields with phytomiza was carried out at the rate of 800-1,000 pupae in late June, at which time the air temperature had reached 30°C and the humidity -- 35 percent. The initial sprouts of broom rape usually appear at this time.

In 1975 the phytomiza treatment was carried out on an area of 230 hectares, using the second study variant with no additional top dressing.

As a result of both a computation and observations, it was established that this method was most effective in combating broom rape (see Table 1). Thus, depending upon the variant used, the number of broom rape bushes infested by phytomiza increased by an average of 0.6-2.1 on one musk melon plant. A determination made as to the degree of infestation of the broom rape by phytomiza revealed simultaneously the presence of larvae and pupae and damage to all parts of the plants (blossoms, stalks, root thickenings).

The data furnished in the table reveals that the degree of infestation of broom rape by phytomiza on musk melon plants is dependent upon the population and the methods of use. In 1974 the greatest percentage (62.5) of infestation of broom rape by phytomiza was observed when use was made of the variant which called for the Samarkand population and no top dressing of sugar syrup and the least percentage (20.7) -- the variant in which the musk melon plantings were treated with phytomiza and the broom rape was destroyed by means of a local phytomiza population.

It is our opinion that the smaller percentage of infestation of broom rape by the Samarkand phytomiza population with a top dressing of sugar syrup, compared to the use of this same population without a top dressing, is explained by the fact that the nectar obtained from the blossoms of Turkmen high sugar content musk melons is preferred by the phytomiza over the sugar syrup. The lower percentage of infestation of broom rape by the local population of phytomiza is explained by the small quantity of phytomiza in agrobiocoenosis.

The high percentage of infestation of broom rape by the Samarkand phytomiza population had a positive effect on both the yield and quality of the musk melon fruit. Thus, in 1974, when use was made of the Samarkand phytomiza population without a top dressing of sugar syrup, the yield increased by 45.7 quintals per hectare compared to control and subsequently, in 1975, the degree of infestation of the broom rape by phytomiza amounted to 88.8 percent and the yield increased to 68.7 quintals per hectare.

The use of phytomiza on musk melon plantings infested by broom rape produces a high economic impact -- 406-513 rubles per hectare.

During the 1976-1978 period, the use of the biological method for combating broom rape by means of phytomiza flies, at the scientific-experimental base of the republic's Experimental Station for Melon Production, produced an increase in the cropping power of the melon crops of 60-70 quintals per hectare and an increase in the seed for such crops -- by a factor of 1.5-2. In the process, sharp improvements took place in the seed grading work and in the quality of the melon fruit. Our experimental station annually procures more than 25 tons of true-bred and high quality elite seed for melon crops and supplies this seed to all of the republic's seed production farms.

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STIMULATING AGENTS FOR COMBATING BROOM RAPE

Moscow SEL'SKAYA ZHIZN' in Russian 1 Sep 79 p 3

[Article: "Stimulants -- For Combating Broom Rape"]

[Text] Sunflower and branched broom rape is a very dangerous and malicious weed. By parasiting on the roots of sunflower, hemp, tomato and tobacco plants and a number of other crops and assuming an extensive spread of this weed, it causes great damage to a harvest. Moreover, it was not too long ago that broom rape made it almost impossible to grow sunflowers in the principal regions of its commercial production. It was only as a result of effort on the part of peasants in Voronezhskaya and Saratovskaya provinces and, even more important, persistent work and talent on the part of such Soviet scientists as V.S. Pustovoyt, L.A. Zhdanov and others, that success was achieved in breeding broom rape resistant varieties possessing an unusually high oil percentage in the achenes.

Thus success was achieved in both saving and creating a new sunflower plant having an oil yield per hectare that was two times greater than that grown earlier. Today, varieties of this crop, bred in the Soviet Union or varieties and hybrids created on their basis in countries of Europe and northern and south America are being sown on millions of hectares annually.

But the resistance of the plants against weeds, similar to diseases, does not last forever. With the appearance of new races of broom rape, immunity against it and non-susceptibility of sunflowers, hemp, tomatoes and other plants are lost. Varieties and hybrids which are resistant to the new races of the parasite are being created as a result of the combined efforts of the plant breeders and plant protection specialists. Naturally, a considerable amount of time is required for the breeding of these varieties and hybrids.

In view of the above and in addition to the agrotechnical methods which are presently being employed on an extensive basis, the scientists are searching for other methods for combating broom rape and weed-parasites similar to it. Thus the strigol compound was extracted from cotton plants and accurately defined -- a natural stimulating agent for the germination of striga lutea seed -- parasite plants. Subsequently, synthetic lactones similar to strigol were reproduced chemically. Laboratory and field checks carried out in the Sussex area of Great Britain furnished reassuring results. When synthetic lactones were applied, 68-77 percent of the branched broom rape seed germinated -- 3-4 times greater than in specimens or on tracts of soil which did not include such treatment. Great results are expected from these artificial stimulating agents. Many types of broom rape are very prolific and capable of producing up to 100,000-150,000 small (like dust) seed. Moreover, they remain viable for 6-20 years and accumulate in the soil in great quantities. The provoking of healthy and mass germination of their supplies in the soil, using artificial stimulating agents, will make it possible to provide better protection for the plantings of many crops against parasite-weeds and to raise cropping power without damaging the surrounding environment. The lactones are not dangerous from an ecological standpoint, since they affect the broom rape seed very rapidly and thereafter disintegrate in the soil within a matter of several days.

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FOLLOW-UP COMMENTARY ON ARTICLE ENTITLED 'FIELDS WITHOUT PLOWS'

Moscow PRAVDA in Russian 24 Oct 79 p 2

[Article: "After Criticism"]

[Text] The USSR Ministry of Agriculture discussed the article with the above title, which was published in PRAVDA 25 July 1979. Deputy Minister A. Gol'tsov informed us that it properly raised the question of using minimal [shallow] tillage for preparing winter and spring grain crops. This method is of great agrotechnical and economic significance, not only in the Ukraine, but the steppe regions of the Russian Federation and Kazakhstan. In 1978, such an agrotechnical procedure was used in kolkhozes and sovkhozes of our country over an area of 34 million hectares, including the use of"ploskorez"[flat-cutting] machines on 24.3 million hectares.

The shortage of special machines is delaying broader introduction of the use of ploskorez cultivation. The orders placed by kolkhozes and sovkhozes for delivery of erosion-control equipment are not being filled in full as yet. As agriculture is furnished with such machines, the scope of shallow [without moldboard] soil cultivation will increase.

In the article entitled "Fields Without Plows," it is properly indicated that there is a shortage of erosion-control equipment, as A. Kardapol'tsev, deputy chairman of the USSR Goskomsel'khoztekhnika [State Committee for Agricultural Equipment], informed the editorial office of this newspaper. There are plans to augment significantly the production of such equipment. In 1980, as compared to 1977, there will be an 1.8-fold increase in production of stubble field sowers, 1.5-fold increase in production of deep cultivators and 1.6-fold increase in that of point harrows. In preparing the plan for 1980 and subsequent years, the USSR Goskomsel'khoztekhnika will take all the necessary steps to better supply kolkhozes and sovkhozes with machinery for shallow soil cultivation, as well as spare parts for it.

Academician A. Sozinov, first vice-president of VASKHNIL [All-Union Agricultural Academy imeni Lenin] writes to PRAVDA that a pressing problem was raised in the article, "Fields Without Plows," concerning introduction of moldboardless cultivation of soil for winter and spring crops. The presidium of VASKHNIL has thoroughly examined the main points of this article and data of scientific institutions. The suggestions of scientists of the Ukrainian SSR concerning the need to replace plowing with superficial cultivation after harvesting corn for green feed and silage, peas and other crops have been accepted by the Ministry of Agriculture of this republic, and they are reflected in practical recommendations.

The presidium of VASKHNIL has made it incumbent upon scientific research institutions of the Ukrainnian SSR, as well as All-Russian department of VASKHNIL, to expand and deepen research on soil-protective measures as they apply to intensive agriculture and to activate work pertaining to their introduction.

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POTATOES SPOILED IN TRANSIT

Moscow TRUD in Russian 20 Nov 79 p 2

[Article by members of "unannounced" inspection brigade: M. Rakhmankulov, head of the state inspectorate for procurement of plant-growing products, Tadzhik Ministry of Procurement; R. Tokar', senior merchandising specialist of the Dushanbe Wholesale Trade and Procurement Office; Ya. Gorelik (volunteer correspondent of TRUD) and Yu. Krasnopol'skiy (correspondent of TRUD), Dushanbe]

[Text] According to the plan, 28,000 tons of potatoes should be stored at the Dushanbe warehouse of the Tadzhikplodoovoshch [Tadzhik Fruit and Vegetable] Administration. Most of the potatoes, over 20,000 tons, will be delivered by the procurement organizations of Chuvashia, Mordovia and Vitebskaya Oblast.

On the day when the unannounced inspection was made, the scheduled shipment of potatoes arrived at the base. Four sealed train cars were standing on the tracks. A car was opened and.... Even a cursory glance was enough to become convinced that the merchandise was of poor quality: the tubers were wet, frostbitten and there were clumps of earth on them.

A. Akhmedov, the person in charge of receiving the shipment, tells us with dismay: "This is the kind of produce we receive from the procurement officers in Shumerli, Chuvashskaya ASSR. For this reason, there is always the 'rescue service' on the ready. Right away, in the yard, without losing an hour, we begin to sort and dry the potatoes. We repeat this more than once until the produce is finally stored in the warehouses."

In the covering document for car No 274-0183, the employees of the Shumerli procurement office indicate the following: standard produce, 95.8%, i.e., 4.2% with mechanical damage. But here is another document, reflecting the expert opinion of the representatives of the trade and commerce office of Tadzhik SSR. It indicates that the entire 55,000 tons of potatoes were unfit for consumption upon arrival in Dushanbe in the same car. And there are many such instances.

On 4 November, the same procurement office shipped a car in which over 25% of the potatoes were spoiled. On the same day, 54,500 tons of potatoes were received from the Temnikov procurement office, Mordovskaya ASSR. According to the experts, about half the delivered produce was unfit for consumption.

In the next car, which came from Senno, Vitebskaya Oblast, over 35% of the potatoes were rotten. About 47,000 tons of potatoes were shipped from the Zhegalovo Starch Plant in the same oblast, 25,000 tons of which were spoiled. Yet the covering papers indicated that the entire shipment was consistent with the standard requirements.

What is going on and why do the potatoes lose their marketable qualities while in transit for 10-15 days? Ye. Ashmarina, state inspector of the Tadzhik Ministry of Trade, clarifies this:

"If the potatoes had been dried and sorted before shipment, as required by the rules, they would arrive here intact. But the shippers do not even remove the earth from the potatoes, which may constitute 10 to 20% of their total weight, ever though only 1% is permissible according to GOST. This is why almost half the produce is rejected."

The transportation service does not have time to haul tens and hundreds of tons of hoplelessly spoiled potatoes away to the dump. An interagency commission, formed by this republic's administration in order to determine the causes of this situation, worked for a week. It arrived at a very laconic conclusion: "The chief cause of spoilage of the potatoes is the negligence and irresponsibility of the shippers."

An enormous amount of material assets perishes in this manner. The labor of farm workers, who raised a rich harvest, is wasted in vain. More than once letters and telegrams were sent to the shippers: "Take urgent measures, be concerned with the quality of the produce." But the procurement officers of Mordovia, Chuvashia and Vitebskaya Oblast ship, as before, tens of tons of potatoes that have not been prepared for shipment, following the principle of just getting rid of them.

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CSO: 1824

INADEQUATE FEED-PREPARATION SHOPS IN ORLOVSKAYA OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 21 Oct 79 p 1

[A. Trubnikov report: "Are the Feed-Preparation Shops Operating Everywhere"?]

[Text] Orlovskaya Oblast--The collective of the Dubinkinskaya Dairy Livestock Section was the first on Pokrovskiy Rayon's Kolkhoz imeni Dzerzhinskiy to organize feed preparation. After special treatment, it is enriched with various additives. It is not fortuitous that a marked increase in cow productiveness has been achieved here. The example of the frontrunners has been followed as of this calving period at the kolkhoz's Setenevskaya and Nachalovskaya livestock sections. According to specialists' calculation, this will make it possible to increase the annual per-cow milk yield by 500 kilos compared with the average annual amount achieved over 4 years of the five-year plan.

Feed-preparation shops have been in operation for some time now at the livestock sections of Uritskiy Rayon's "Luch revolyutsii" Kolkhoz. This farm fulfilled the plans and socialist pledges of 4 years of the five-year plan for milk sales to the state ahead of schedule. The livestock raisers of Kromskiy Rayon's "Put' k rassvetu" and "Vlast' truda" kolkhozes, Livenskiy Rayon's Kolkhoz imeni Karl Marx, Orlovskiy Rayon's "Probuzhdeniye" Kolkhoz and of many other farms have organized fodder processing.

A considerable amount has already been done in the oblast to improve animal feeding techniques. The majority of feed-preparation shops and houses had been made ready for operation by mid-October. But despite the wealth of experience of the organization of feed preparation, not all farms are yet hastening to introduce it for themselves. On Zalegoshchenkiy Rayon's "Rodina" Kolkhoz the feed-preparation shop stands idle, and the steaming and straw-cutter capacities are covered in rust. Even the calves are receiving fodder in unprepared form. On the kolkhozes imeni Dimitrov, imeni M. Gor'kiy and imeni Dzerzhinskiy of this same rayon the feed-preparation shops are now idle for the third year running because of engineering carelessness permitted during the installation of the equipment. The raysel'khoztekhnika specialists are in no hurry to remove the faults. Even the steaming plants and other mechanisms in good repair are not operating on a number of farms of Orlovskiy, Verkhovskiy and certain other rayons.

And the construction workers are also letting the stock breeders down. The "Oblkolkhozstroy" Association and "Orelsel'stroy" Trust are failing to meet the targets for the installation of feed-preparation shops. Primitive feed-preparation shops and houses predominate in the oblast, and standard shops and houses account for only one-fourth of the total.

"Industry is failing to manufacture standard fodder steamers for cattle," A. S. Chernyshev, chief engineer of the Novosil'skiy Rayon Agricultural Administration, complains. "We have had to take the S-12 mixer from the feed-preparation shop for hogs and adapt the corresponding mechanisms from other machines to it."

Similar "hybrid" shops have been built on the "Pobeda," "Leninskiy put'" and "Mayak" kolkhozes. And, of course, they are unreliable--there are frequent stoppages during the loading and unloading of fodder. Thus a shop has been built in accordance with a standard plan, but it can only provisionally be called standard. There is a shortage of machinery, parts and materials for the installation of the shops. Only half of the requests for the supply of steam generators are being satisfied in the oblast, for example.

The delay in the startup of the feed-preparation shops and houses and the interruptions in their work are most frequently explained by the low-level skills and, sometimes, the complete absence of the appropriate personnel. Machine operators have still not yet been selected on a number of farms of the same Zalegoshchenskiy Rayon for work in the feed-preparation subdivisions.

Starting operatings in all feed-preparation shops and houses in the next few days and building the simplest fodder steamers where they do not currently exist is the livestock raisers' and construction workers' most important task. Not a single kilo of fodder should arrive at the livestock sections without preliminary treatment.

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IMPROVEMENTS IN FEED INDUSTRY CALLED FOR

Moscow SEL'SKAYA ZHIZN' in Russian 16 Sep 79 p 2

[Article by I. Khrabustovskiy, professor, chairman of the zoohygienic department of the Khar'kov Zooveterinary Institute; I. Maksakov, professor, chairman of the department of nutrition for agricultural animals, Khar'kov: "Lost Trust"]

[Text] In our country in recent years significant steps have been taken to develop a large mixed fodder industry. Because of this some branches of livestock farming have achieved noteable success. For example, let us look at poultry farming. Many poultry factories have begun to produce 250-270 eggs per year per hen--2-2.5 times more than small farms produce. The expenditure of feed for the production of a single unit has decreased by the same amount. In these pleasant changes a large role was played by the mixed fodder industry which has taken on the responsibility of supplying highly nutritious mixed fodder for fowl.

However, in recent years, and this must be said directly, poultry productivity has not been growing in many factories, and some factories are even loosing ground. One of the reasons for this is that the mixed-fodder industry has begun to curtail the development of the branch to a degree.

We are speaking primarily of the falling quality of mixed fodder. We thoroughly studied the work of an entire group of poultry-raising factories in the southern Ukraine and here is what we found out. There are intolerable deviations from established recipes in the enterprises of the mixed-fodder industry. At the Otradovskaya Poultry Factory of Odesskaya Oblast we found mixed fodder delivered by the Belgorod-Dnestrovskiy Mixed-Fodder Plant which was prepared according to the No. 2-10 recipe. However, the vitamin A content was only 64 percent of what was required. The same plant sent the Odesskaya Poultry Factory some mixed fodder (PK-11-2) at approximately the same time which contained 6 percent cellulose when the standard maximum level is 4.75 percent.

It is not enough that products are produced with gross violations of standards. Frequently they are delivered without consideration of the needs of those for whom they are earmarked. Poultry factories need mixed fodder for chicks, but instead they are sent types that should be fed to older birds. As a result the enterprise does not obtain the required productivity from fowl and valuable components are expended uselessly. At the Otradovskaya Poultry Factory 644 tons of mixed fodder were delivered from the Belgorod-Dnestrovskiy Mixed Fodder Plant while the plan of deliveries called for only 550 tons. But what kind of feed was this? The enterprise had expected mixed fodder prepared according to formulas 1-18, 1-22, 1-25 and 2-6 but received the following: 1-7, 1-9, 1-8, 3-2, 2-5, and 2-7. In other words, not a single ton of what was needed was received.

It would not occur to anyone to put coal into a car engine and to use high quality gasoline for a locomotive. However, poultry factories come across similar situations daily. Chicks need mixed fodder containing 22-24 percent protein and no more than 4 percent cellulose. But they are served "dishes" in which there is 14 percent protein and 16 percent cellulose. This mixed fodder is earmarked for hens, but they receive rations containing over 20 percent protein. It would seem to be a small overexpenditure--60 grams per kilogram. However, if we calculate it on the basis of present-day scales of production we see that hundreds of tons of protein are being squandered, and it is the shortage of protein that workers of the mixed-fodder industry are always talking about.

The situation is becoming amusing. The Krasnoarmeyskaya Poultry Factory of Krymskaya Oblast received protein-vitamin supplements in pure form from the Khar'kovskiy Mixed-Fodder Plant. This means that the products were not yet ready for consumption. Razdel'nunskiy Plant managed to send the Otradovskaya Poultry Factory K-60-4 mixed fodder earmarked for cattle. Through carelessness it could have decreased the productivity of adult birds and destroyed young birds completely. Meanwhile, somewhere a dairy farm was waiting for these products and could have put them to good use.

The more and more common practice of distant and reciprocal shipments must be objected to strenuously. At one time each poultry factory was assigned to one or two mixed-fodder plants. The plant itself dealt with several poultry-raising enterprises, but each of these enterprises knew its particular supplier, who was located nearby, and worked in close contact with him. Now imagine the current situation for some poultry factories that receive mixed fodder from 8-10 places located almost in different corners of the republic. For example, the Otradovskaya and Krasnoarmeyskaya poultry factories have this many suppliers. Moreover, Khar'kov sends its mixed fodder to the Crimea, and the Crimea sends its products to Vinnitsa, which in turn sends its products to Odessa. All of this is very expensive for the national economy. The fact that transportation facilities are overloaded is not the only problem. The most important thing is that products become depersonalized and thus the responsibility of suppliers decreases--what demands can be made on them if they are located hundreds of miles from their clients? In addition, each day on the road decreased the vitamin value of the mixed fodder (by 1.5 percent!). This also must be kept in mind.

Of course the mixed-fodder industry has its own difficulties and unsolved problems. Especially many problems are created by the suppliers of raw materials, particularly of protein supplements. But in this case we are not speaking of them. We are speaking of things that do not require additional resources and expenditures. Everything that was said above refers to poor organization and the loss of a feeling of responsibility on the part of a number of workers in the mixed-fodder industry.

Now we have a situation in which agricultural workers, particularly those in poultry farming, have lost faith in mixed-fodder plants. The situation has progressed to the point that many poultry factories are creating their own mixed-fodder shops. The aim of these shops is absurd--to bring the mixed-fodder up to GOST standards or in other words, to correct the incompleteness of industry.

As we were told by the director of the Khar'kov Administration of Poultry Raising, I. Koshevatskiy, the building of mixed-fodder shops costs the factory 50,000-70,000 rubles. Add to this the expenditures for searching out the necessary components and for completing the processing of "full-value" mixed fodder. Here is what is surprising--the poultry factories frequently add components into the mixed fodder which the mixed-fodder plants did not include presumably because of their short supply. But after all the poultry farmers obtain these ingredients from somewhere, so they must exist somewhere in the country!

We must consider that planning organs do not allocate vitamin supplements that are in short supply for small shops. Poultry factories obtain them by fair means or foul, which affects the supplies of large mixed-fodder enterprises. This situation will be regulated now--with the planning of new poultry factories the building of such feed shops is always considered.

We feel that the expenditures that are made by poultry factories to create unnecessary makeweights in their enterprises should be used to expand basic production and to focus all attention on that. Also, it is time that mixed-fodder plants got down to business. But strict demands must be made of the plants so that livestock farmers can have faith in those who produce mixed fodder.

In our opinion instead of using capital to maintain a laboratory on the quality of mixed fodder in each poultry factory it would be more expedient to create some centralized state inspectorates to control the quality of production of mixed-fodder plants and the quality of raw materials delivered to them by various departments. In this way it would be possible to save manpower as well as resources. We have the positive experience of Belorussia, where mixed-fodder enterprises and poultry factories are closely related and responsible to each other. The obligations include the fact that mixed-fodder enterprises are obliged to submit products with the guarantee that by using them a certain productivity can be achieved. In turn, the poultry factory is obliged to reach this level of productivity. If this does not occur, then the two interrelated enterprises search for a reason as to why the failure occurred.

The final result of the work of mixed-fodder enterprises is livestock production. And things must be organized in such a way so that the mixed-fodder industry bears a responsibility for this final result.

8228
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MACHINE BUILDING IN BEHALF OF LIVESTOCK HUSBANDRY REVIEWED

Moscow EKONOMICHESKAYA GAZETA in Russian No 43, Oct 79 pp 1-2

[Article: "Machine Building for Livestock Husbandry"]

[Text] Machine building for livestock husbandry and feed production was created as a separate specialized branch 6 years ago. The associations and plants of Minzhivmash [Ministry of Machine Building for Animal Husbandry and Fodder Production] are supplying the livestock and poultry complexes and farms with modern equipment and the kolkhozes and sovkhozes with machines and equipment for the procurement, storage and preparation of feed. The branch's workers are having to solve great tasks in light of the decree handed down during the July (1978) Plenum of the CPSU Central Committee concerning further development of agriculture. They are making an increasing contribution towards converting livestock husbandry over to an industrial basis.

The branch is developing at an accelerated tempo. During 3 years of the Tenth Five-Year Plan, as revealed in the diagram published herein, the production volume increased by 31 percent instead of 25.1 percent as called for in the task established for this period in the five-year plan. Labor productivity also increased by 27 percent and this also exceeded the task for the five-year plan.

Considerable increases took place in the production of pick-up balers, units for the preparation of grass meal and the briquetting of feed, milking units, feed distribution mechanisms, equipment for the cleaning of livestock husbandry facilities and also equipment for large-scale livestock husbandry complexes.

At the same time, a number of new and highly productive machines were created. In particular, the production of KSK-100 self-propelled forage harvesting combines was mastered within a short period of time. Equipped with interchangeable attachments, these combines can be used for silage making and for procuring haylage and fodder for grass meal, granules and briquettes. The production of PS-1.6 pick-up balers has commenced. They are making it possible to procure the hay in a compressed form. The production of equipment for grass meal, having a productivity of one and a half and three tons per hour, is being developed. Agriculture is being supplied with machines for the granulation and briquetting of feed. The farms and complexes are being equipped with Tandem and Yelochka type milking units and reliable conveyers for the removal of farmyard manure. Equipment being supplied during the Tenth Five-Year Plan includes: highly productive grinders for arranging hay in bales and rolls, cascade batteries of cages for poultry and heavy tonnage machines for applying liquid and solid organic fertilizers.

A distinctive feature of this five-year plan is the conversion of the branch over from creating individual machines to producing highly productive sets of equipment. At the present time, 72 such sets are being produced instead of 35 at the beginning of the five-year plan. This is making it possible to raise the level of large-scale mechanization of operations at livestock husbandry and poultry raising farms.

The proportion of high quality machines and equipment, compared to the branch's overall output volume, is increasing. During 3 years of the five-year plan, it increased almost twofold -- to 30 percent.

Production of Goods Bearing the State Seal of Quality
(in percentages of overall production volume)

1979 (plan).......	31
1978..............	30
1977..............	25
1976..............	16

The enterprises of Minzhivmash are undergoing modernization and the scales of their technical re-equipping are being expanded. During the 1976-1978 period, 254 continuous flow mechanized and automatic lines, in excess of 2,250 automatic machines, semi-automatic machines, specialized machines and machine assemblies were introduced into operations. More than 15,000 progressive technological processes were mastered.

The branch is continuing to develop at a high tempo during this current year. The plans call for the volume of production to be increased by 7.5 percent above the figure for last year and this will exceed the task of the five-year plan for 1979. Considerable increases are taking place in the production of equipment for the mechanization of farms, procurements and feed preparation.

The collectives of the associations and plants have fulfilled their plan for 9 months. The task for growth in labor productivity was over-fulfilled.

Growth in Production Volume at Minzhivmash Enterprises
(1975 = 100 percent)

1979 (plan)	141.6
1978	131.7
1977	120.7
1976	110.7
1975	100.0

During the January - September period, the production volume for machines for livestock husbandry and feed production increased by 10 percent above the figure for the same period last year.

Active preparations are underway for implementing the decisions handed down by the CPSU Central Committee and the USSR Council of Ministers with regard to improving the economic mechanism, with the specific characteristics of the branch being taken into account.

In the competition for the utilization of internal reserves, a fine example is being set by the collectives of leading machine building enterprises for livestock husbandry and feed production, in terms of their successful fulfillment of the tasks for the five-year plan. The Comsel'mash Association (General Director N. Afanas'yev) is in the lead in the socialist competition. Here the proportion of products bearing the state seal of quality has reached almost 60 percent of the overall production volume. Since the beginning of the year, the collective has realized considerable economies, over and above the established tasks, in the use of rolled steel, fuel and electric power. Approximately 2 million rubles of additional profit were earned during the 9 month period. The Kurgansel'mash Production Association (General Director V. Piskunov) is performing in a stable manner. During the January to September period, its production of goods increased by 6.6 percent above the figure for the same period last year. Moreover, the entire increase in production was achieved as a result of having raised labor productivity. The plan for placing new capabilities in operation was over-fulfilled. From month to month, the collective of the Brestsel'mash Plant (Director B. Machuyev) conscientiously fulfills its contractual obligations with regard to delivering products to the consumers. The collective of the Nezhinptitsemash Production Association (General Director Ye. Kossov) achieved new goals in developing its production and improving the quality of the goods being produced.

However, a number of enterprises are failing to cope with their tasks concerned with product deliveries and growth in labor productivity. As a result, the production of some items was less than planned during the January to September period: general purpose loaders for agricultural use -- by 2,100 units, coarse feed grinders -- by 769 and manure removal conveyors -- by 1,500 units.

Growth in Production of Spare Parts for Machines Used in Livestock Husbandry and Feed Production
(1975 = 100 percent)

1979 (plan)	139
1978	133
1977	122
1976	112
1975	100

Among those that had fallen behind -- the Pyatigorsksel'mash Production Association (General Director V. Likhodedov) and the Liyepaysel'mash Plant (Director I. Chirkshis)

From the Standpoint of High Exactingness

Simultaneously with work being carried out aimed at completely fulfilling the tasks for 1979, during the fourth quarter the branch's enterprises must make thorough preparations for the production of machines and equipment during 1980. In many instances, the approved schedules are not being observed. In particular, delays are taking place in the manufacturing of the technological equipment required for the production of a new design of feed distributors at the Kvasilovfermmash Plant (Rovenskaya Oblast). No haste is being displayed in making preparations for the production of the TG-3.5 heat generator at the Amursel'mash Plant (city of Belogorsk) or haystack formers and haying wagons at the Syzran'sel'mash Production Association.

The enterprises of Minzhivmash are experiencing a shortage of castings and forging blanks. One of the principal reasons for this -- unsatisfactory mastering of the capabilities placed in operation at the Tselinograd and Kirovograd iron foundry plants and also the production of drop forgings at the Kovel'sel'mash Plant. For example, capabilities were placed in operation last year in Kirovograd for the production of 11,000 tons of cast iron annually. However, this year the task for the production of poured blanks is only being fulfilled here by 50 percent. Such is the result of construction imperfections, extended periods of idle time for the technological equipment and raised amounts of waste. In recent months there has been an increase in losses in working time at some enterprises. In particular, such losses have been extensive at plants of Buryatfermmash and Lyuberetskiy Agricultural Machine Building.

A great amount of work still remains to be carried out, prior to the end of this current year, in connection with the placing in operation of new production capabilities. This includes projects at the plants of Gomsel'mash, Bobruysk, Sosnovogorsk, Kovel'sel'mash and a number of others. An increase in the production of new machines, which the farm workers are eagerly awaiting, is dependent to a considerable degree upon these capabilities being placed in operation in a timely manner. Improvements are required in the organization of construction-installation work at underway projects.

One priority task is that of expending material-technical resources in a rational and thrifty manner. The enterprises of Minzhivmash are the largest consumers of rolled steel. One important reserve is that of improving the design and, in this manner, lowering the specific weight characteristics of the products being produced. This is one of the principal criteria for evaluating the work of each design organization and all associations and enterprises.

The established tasks for lowering the metal expenditure norms in the branch are being over-fulfilled annually. Last year alone, a savings of 73,500 tons of rolled metal was realized. However, some economic leaders of associations, design organizations and enterprises are still failing to evaluate properly the importance of this work. During the past few years, the coefficient of use of rolled metal at the branch's enterprises has remained at the 0.76 level. At the all-union industrial associations Soyuzkormmash (Chief V. Tokarev) and Soyuzzhivmash (Chief P. Gerasimov), it is lower than the average branch figure. In the production of a number of machines -- foragers, loaders, coarse feed grinders and organic fertilizer spreaders -- the coefficient of use of rolled metal remains on the order of 0.6-0.64.

Up until now, adequate attention has not been given at some enterprises to the introduction of progressive technologies. For example, two sprocket knurling machines, which make it possible to reduce rolled metal expenditures by 430 tons annually, have remained inactive for more than 2 years at the Orekhov Agricultural Machine Building Plant (Zaporozhskaya Oblast).

Certain other problems associated with technical progress are being resolved very slowly. The production of grass meal, which is constantly increasing in our country, is associated with considerable expenditures of fuel. In recent years, greater recognition has been given to the high temperature process for the artificial drying of green feed (grass meal). Moreover, the utilization of exhaust gases at the units makes it possible to realize a fuel savings of 8-10 percent. However, the Institute of Machines for the Processing of Grass and Straw in Vil'nyus (Director Z. Kuchinskas) as yet has not supplied a practical solution for this particular problem.

Raising the Quality of the Machines

Constant work is being carried out in the branch aimed at raising the technical level and the reliability and durability of the machines used in livestock husbandry and feed production. During the January - August period of 1979, 76 products were certified for the state seal of quality -- 14 more than for the same period last year. The task of increasing the proportion of products in the highest quality category, compared to the overall production volume, is being over-fulfilled.

At the same time, some enterprises are tolerating crude violations of the technological discipline. Frequently the machine parts and units are produced, with deviations from the requirements set forth in the standards and technical conditions taking place. Included among such enterprises are the plants Sumsel'mash (Director Yu. Titushkin), Ufasel'mash (Director N. Ikhsanov) and Prilukzhivmash (Director V. Volosozhar). Just as in the past, considerable quantities of products are being returned by the representative-inspectors of Goskomsel'khoztekhnika at the plants Orelzhivmash, imeni Frunze (city of Frunze), Yelgavsel'mash and Bobruysksel'mash. Last year the organs of USSR State Standards eliminated from the accounts sales amounting to 358,000 rubles and transferred 52,000 rubles of profit to the state budget, owing to the fact that the products involved were considered to be low quality output. There have been instances when the rules for certifying products for the state seal of quality have not been observed.

This year the production of a number of new types of machines and equipment has been mastered. The series production of the self-propelled KPS-5G mower crusher has commenced at the Lyubertsy plant, in cooperation with enterprises of other branches. Its use, together with the self-propelled combine-harvester, is making it possible to reduce labor expenditures for the procurement of haylage and crushed grasses, for the subsequent preparation of grass meal. The new items of equipment for 1979 include: RSP-10 feed distributor-mixer, highly productive roll-type pick-up balers and KMP-1 motorized mowers.

But a definite lag is occurring in connection with the creation and mastering of certain types of new equipment. Although in recent years the level of complex mechanization in the raising and maintenance of poultry has been raised noticeably, in the egg storehouses a large number of workers are still performing manual labor. The state special design bureau of the Pyatigorsksel'mash Plant was tasked with developing an automatic line for the processing of 20,000-25,000 eggs per hour. However the experimental model of the line was not produced nor presented for testing in a timely manner.

Further improvements in the technical level of the machines and equipment used in livestock husbandry and feed production are dependent upon the allied branches responsible for supplying progressive materials. At the present time, the requirements of Minzhivmash for structural steels of raised strength and corrosion resistance, curved profiles of rolled metal, plastics and new paint and varnish materials are not being satisfied.

In Light of New Tasks

An acceleration of scientific-technical progress and the increased production of more efficient products are associated with carrying out the decisions handed down by the party and government with regard to improving the economic mechanism. Since the beginning of this current year, the scientific-research, design and technological organizations, production associations and Minzhivmash enterprises have been operating on the basis of a new system for the planning, financing and economic stimulation for work involving new equipment. Today all work associated with the development and mastering of new equipment is financed from a common fund for the development of science and engineering, which is formed by means of deductions from the planned profits of branch enterprises. The following funds are being created in organizations which have converted over to the new system: material incentives fund, fund for socio-cultural measures and housing construction and a fund for development.

A great amount of work remains to be carried out in connection with the practical fulfillment of all measures for improving the economic mechanism, as called for in the decisions handed down by the party and government. Thorough preparations must be made throughout the branch for the conversion (planned for 1 January 1981) over to planning and evaluating the economic activities of enterprises based upon the normative index for net output. The ministry has commenced analyzing the technical level of the machines and equipment. This is being accompanied by the development and carrying out of specific measures for raising the technical-economic indices of both manufactured and newly mastered products. The ministry, jointly with State Standards, is organizing a review of the obsolete standards for machines and equipment used in livestock husbandry and feed production. A great amount of organizational work must be carried out in connection with the introduction of the brigade forms of labor.

Taken together, all of these factors will make it possible to place additional production reserves in operation and to carry out successfully the tasks of the five-year plar

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FOOD SCRAPS COLLECTED FOR FATTENING HOGS

Alma-Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 10, Oct 79 p 20

[Article by R. Avanesov, head of the Alma-Ata Office for Food Scraps Procurement, and B. Sams, chief of a department of the Main Science Administration, Kazakh Minister of Agriculture: "Food Scraps for Fattening"]

[Text] Hog raising is one of the fast-maturing branches of animal husbandry. For this reason it is possible to increase pork production in a short time not only on specialized complexes and farms, but also on other categories of farms. At the present time we face the goal of developing hog raising more intensively in comparison with previous years for the purpose of more fully satisfying public demands for meat products for food and utilizing every opportunity and reserve, especially feeds.

The utilization of food scraps procured in towns and large centers of population to fatten hogs is an important reserve for increasing meat production. Our republic still does not have much experience in this method of fattening, but it has already spread to farms in the suburbs of Alma-Ata, Karaganda, Ust'-Kamenogorsk, and other cities.

It must be pointed out that recently not just agricultural enterprises, but industrial ones as well -- plants, factories, mines, pits, and others -- have begun to fatten hogs on food scraps. In this connection the experience in operating the farms deserves very broad study, generalization, and introduction.

The Alma-Ata Fattening Sovkhoz in Talgarskiy Rayon is one of the farms specializing in fattening hogs on food scraps. A total of 2,600 hectares of arable land, which is used mainly for the production of barley and partially for corn for grain and green mass, are tied up in production-economic activity for them. A complex for fattening hogs with all the necessary technological services has been built on sovkhoz land. The herd is made up of about 2,000 large white breed sows, including 500 primary ones. On the farm they have solved the problem of obtaining hybrid shoats which mature more rapidly, produce high weight gains, and are less subject to various diseases. Here they have also developed the technology for raising hogs based on feeding them food scraps. On this sovkhoz they take the shoats from the sows somewhat earlier than on other hog farms; they group the shoats by weight and age at 2, 4, and 6 months, respectively, and proceed with the planned fattening.

Food scraps at the rate of 4 kilograms per head per day begin to be introduced into the rations of shoats at 4 months of age; at the end of the fattening period this norm reaches 7 to 10 kilograms. The concluding stage of the fattening takes place in open fattening areas where, as practice has shown, the weight gain is considerably higher than in covered premises.

Depending on the age of the shoats, the feed rations are balanced according to the complex of nutrients. For example, in the first period the shoats are allocated 10 kilograms of various feeds with an overall nutritional value of 3.1 feed units. It is made up of food scraps and other components. In the second fattening period the amount of feed reaches 11 kilograms with a nutritional value of four feed units.

Before being fed to the shoats the food scraps are treated thermally for one hour at a temperature of 100 degrees. After this treatment the scraps enter mixers where concentrated feeds, salt, mineral and vitamin additives are added to them in amounts according to the feed rations for specific age groups of hogs. After this the prepared feed is distributed to the animals.

By making effective use of food scraps and forage grain of its own production, the sovkhoz in a short period of operation brought pork production up to 14,000 quintals a year. Of this amount over 85 percent is turned over to the state and has a high grade. The pork is delivered mainly to the Alma-Ata Meat Combine for processing into sausage products.

The Alma-Ata Fattening Sovkhoz is a lucrative and profitable enterprise; it successfully meets its targets for high quality pork production. Food scraps are a nutritional and cheap feed. Their use makes it possible to save grain feeds and reduce the cost of rations, and consequently the cost of weight gains. Moreover, the prompt collection of scraps promotes sanitation in the towns and population centers.

It has been established that on the average each 4 to 5 kilograms of food scraps is equivalent in nutritional value to one kilogram of concentrated feed. (Each ton of food scraps provides an opportunity to obtain 40 to 50 kilograms of pork.) The scraps are made up of 15 to 20 different types of food like potatoes, vegetables, fruits, and meat, fish, and bread scraps. Scraps from kitchens, snack bars, restaurants, and other public dining enterprises are marked by an especially high nutritional value.

A cost-accounting office for procuring food scraps with a staff of brigade leader-inspectors, to whom specific areas of the city are assigned, has been set up under the Alma-Atinskaya Oblast Specialized Farm

Association for Fattening and Raising Cattle. The office contracts with house administrations and public dining, trade, food, and meat and dairy industry enterprises to collect food scraps and provides the necessary amount of special packaging and containers to the designated organizations. Yard-keepers, special workers, store watchmen, office cleaners, dishwashers, and other persons for whom a a plan for food scrap collection has been established collect the scraps directly.

The office periodically transfers funds to organizations which collect food scraps. House administrations are allotted an average of 11 rubles per ton of pure food scraps. Of this sum 9 rubles 50 kopeks per ton of scraps is paid directly to the food scrap collectors, 50 kopeks to the house manager, and 20 kopeks to the bookkeepers.

Snack bars, restuarants, and children's institutions, where scrap collection is less complicated than in house administrations, are paid 3 rubles per ton of scraps. Baking enterprises, which produce the most valuable scraps as far as feed is concerned, receive an average of 30 rubles per ton. Of this sum 90 percent goes for wages for scrap collectors.

Food scraps are hauled to the fattening farms by motor transport of the special motor vehicle base of the oblast specialized farm association. At specified hours during the day the trucks drive up to the places where the containers of scraps are placed and load them for transporting to the farms and in exchange they leave empty containers. The food scrap collectors fill them from cans which stand in the entryways of houses and other places.

In the capital oblast, food scrap collection is well organized in the cities of Alma-Ata and Kapchagay where 250 to 300 tons of scraps are hauled away daily. Of this amount 80 to 100 tons arrive at the Alma-Ata Fattening Sovkhoz, while the rest goes to other farms.

Existing experience in procuring food scraps shows that the largest amount (20 to 25 percent) is procured from citizens through the house administrations. Bakeries and the Torgplodovoshch system are other large suppliers of scraps. However, it has been established that not all food scraps created by public and food industry enterprises are as yet being used productively.

The collection of food scraps and their use in fattening hogs is an important state measure which must become very widespread among all suburban farms and industrial enterprises. All food scraps must be collected and used so as to significantly replenish the republic's meat balance.

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PRIVATE LIVESTOCK HOLDINGS SUFFER FROM LACK OF FODDER

Support Needed for Subsidiary Farms

Ashkhabad TURKMENSKAYA ISKRA in Russian 8 Jul 79 p 1

/Text/ As a result of the subsequent realization of the agrarian policy of the party, the republic's agriculture is becoming stronger from year to year. Today kolkhozes, sovkhozes and inter-business enterprises are the fundamental source for production and sale of vegetables, melons, fruit, and animal husbandry products to the state. The inexhaustible powers of national production are supported every year by the growing volume of the procurement of agricultural products and those of animal husbandry.

The July (1978) Plenum of the CPSU Central Committee defined the general guidelines for the development of agricultural production in the future, it gave a powerful push to the further intensification of kolkhoz and sovkhoz production, to the development of agro-industrial integration on the basis of concentration and specialization of animal husbandry, horticulture and vegetable growing.

At the same time the Plenum of the CPSU Central Committee indicated the necessity to show concern for individual farms of the kolkhoz workers and workers and employees. These farms are an important source for increasing food resources in the nation.

In the new USSR Constitution, it is written that "The State and kolkhozes render assistance to the citizens in conducting subsidiary farms." Raising vegetables, fruit and livestock on land which is national property, purchasing feed from kolkhozes and sovkhozes, when necessary running to veterinary specialists for help, tens of thousands of families who live in the Turkmen villages supply themselves with foodstuffs and sell the surplus either to the state, to trade cooperatives or at kolkhoz markets. By this token, they promote the solution of the problem for a more complete satisfaction of the needs of Soviet people for foodstuffs, for industry's need for raw materials which was established by the 25th CPSU Congress.

Many examples can be cited which attest to the great assistance rendered by kolkhozes and sovkhozes in operating personal farms. The sovkhozes of

Pobeda, Pogranichnik, Kalai-Mor and others of the Kushkinskiy Rayon presented the workers and employees, and rural intelligentsia with irrigated pasture land for grazing their personal livestock, and they sell feed to them which they produce themselves. On the sovkhoz staff is a veterinary worker, who cares for personal livestock. In turn, those in charge of sheep and cattle assume the obligation for the rational utilization of pasture land and they insure the protection and high productivity of the animal. The mutual obligations are strengthened by agreements made between the administration of work committees on the one hand, and those in charge of livestock on the other.

The Leningrad kolkhoz and others of the Chardzhouskiy Rayon sell alfalfa to kolkhoz workers who have cattle for their personal use. All of this has an important effect. Concern for having personal cattle be well fed, to have the land plowed by a kolkhoz tractor and to have it watered in time raises the level of activity among rural workers who are occupied in national production.

However, concern for the development of personal subsidiary farms, particularly those of workers, employees, pensioners who live in the rural areas is not being shown everywhere. Despite the direct order contained in the decree of the CPSU Central Committee and USSR Council of Ministers "On Personal Subsidiary Farms Belonging to Kolkhoz Workers, Workers, Employees and Other Citizens and on Collective Horticulture and Vegetable Growing," which was approved in Sep 1977, in many areas of the republic, particularly in the Chardzhouskay Oblast, local soviets even now have not yet taken care of allocating pasture land for grazing personal cattle, hiring shepards, regulating the trade of concentrated feeds allocated by the state for sale to the people.

The issue concerning establishing a self-supporting subdivision is not being resolved, let's say, in the system of Turkmenpotrebsoyuz for raising pedigreed young cattle to be sold to the people. Other problems also must be solved: almost in each area where cotton is raised in the republic there are cotton cleaning plants. However, the excess is sold only to their own workers. Moreover, pensioners who in their own time worked in the cotton cleaning industry, doctors, teachers, workers in preschool facilities, and in the service areas must also have a right to this.

Difficulties with feed and the impossibility to buy heifers, except at the market, hold back the development of personal subsidiary farms for rural inhabitants. According to the data of the Turkmen SSR Central Statistical Administration, at the beginning of the current year, 20 percent of the kolkhoz families did not have cattle. In the Ashkhabadskaya and Maryyskaya oblasts there were even more such families. There is a particularly small number of cows for personal use by kolkhoz workers. Thus, on the whole for the republic, 40 percent of the kolkhoz farms do not have them and in the Ashkhabadskaya and Maryyskaya oblasts, over half do not. There are even less cattle for personal use among village residents. There are reports of daily scornful treatment of personal subsidiary farms of workers, employees, doctors, teachers, pensioners, as well as a lack of attention given by rayon and village Soviet of people's deputies and their executive organizations in this important work. As a result, people lose the desire to raise their own cattle.

It is necessary to intensify work in organizing the purchase of excesses of agricultural products from inhabitants. The troubles are compensated for. This is attested to by the example of the Maryyskaya Oblast. In the course of five months of this year, there was a little more milk delivered to the plants than in other oblasts. Of the entire volume which was purchased by the state in the oblast, one-fifth was composed of milk which was sold by the inhabitants.

In the Tashauzskaya Oblast, where only 18 percent of the kolkhoz workers' families do not have cattle on their subsidiary plots, the milk purchased from the inhabitants composed only 2 percent of the overall volume of purchases. About the same situation exists in the Chardzhouskaya Oblast. In the Ashkhabadskaya Oblast, the situation is even worse. In half of the rayons of the oblasts, there are no purchases made of excess milk from the inhabitants.

It is necessary to seriously reprimand the cooperatives. The farmstead plots on which fruit and vegetables are grown are possessed by almost all kolkhoz workers. However, nobody purchases vegetables and fruits in the countryside. Many kolkhoz workers who live far from the capital and from industrial centers annually sell a portion of the fruit raised on their plots. Regulating the purchase of excess products from the inhabitants could be promoted by long-term agreements between purchasing organizations with garden and vegetable plot owners.

The work done on the small plots should be made easier for those who carry on a subsidiary farm business and concern should be shown for mechanizing labor on the peasant farmstead. The Turkmenpotrebsoyuz should not only bring implements to the village, but also small equipment.

A more complete utilization of personal kolkhoz workers' farms and those of sovkhoz workers in order to increase the production of field and farm is an important concern for agricultural party organizations, executive committees of the local Soviet of people's deputies.

From Subsidiary Farms

Riga SOVETSKAYA LATVIYA in Russian 21 Sep 79 p 2

[Text] In two of the rural soviets of the Valkskiy Rayon--the Zvartavskiy and Blomskiy ones a single plan for selling meat and milk to the state has been established. This means that the Zvartavskiy rural soviet and the Gauya kolkhoz as well as the Blomskiy rural soviet and the Uzvara Kolkhoz have the combined task for selling this product.

In the rayon there are many supporters of such a united plan. The fact that the tasks for the first half of the year have been surpassed by the indicated rural soviets and farms which speaks in its favor. Last year before this order was arranged, both rural soviets could not manage the tasks.

A person chosen by the kolkhoz takes care of purchasing cattle from the populace in the Blomskiy rural soviet. A schedule of delivery of animals is followed which is arranged with consideration for the citizens' wishes. The cattle are weighed on the spot and the kolkhoz workers do not have to go to meat combines and leave work.

However, the united plan has negative features also. It does not reduce the acquired tendency towards reducing the number of head which the population has. In a year, the number of cattle which the farms have has been reduced by 500 and the number of pigs has been reduced by 1,650. Moving from farmstead houses into well built homes, for a number of reasons many families cease to keep cattle. Pasture lands which are far apart, an absence of buildings for keeping cattle, and inadequacy of separated milk, and an irregular delivery of concentrated feeds play a role.

Explanatory work among the populace is being conducted very weakly, although almost one-fourth of the animal husbandry products sold by the Valkskiy Rayon to the state fell on personal farms.

The executive committee of the Valkskiy Rayon Soviet is constantly concerned with the issues of increasing the production of animal husbandry products. However, there is not a single opinion concerning the advisability of a united plan in procuring meat and milk here.

As a rule, the leaders of those farms which at the expense of the population strive to breach gapes in their plan support such a plan. This is what those local organizations believe which were unable to organize the procurement of animal husbandry products from the people. For these and for the others this united plan seems to be a good one. But is this really so?

It goes without saying that for other leaders and workers of local soviet organizations, work will be apparently easier under this plan. There will be less worries. But where is the guarantee that they will be concerned about increasing the number of head of cattle for the population? This work is tedious and daily. And it is probably within the means only of the deputies.

Therefore, it is more advisable to take another direction. For now, it is necessary to refuse the widespread implementation of a united plan. It is important to activate the work of rural soviets among the population by way of explanation and material support of the comprehensive promotion for increasing the number of cattle which the citizens own, and strive for having more farms sell meat and milk to the state. With this it is necessary to always remember the words of Comrade L. I. Brezhnev from his speech at the July (1979) Plenum of the CPSU Central Committee concerning the fact that we must concern ourselves with the personal farms of kolkhoz workers, laborers and employees. This is an important source for increasing foodstuff resources.

Difficulties in Feed Supply

Moscow SOVETSKAYA ROSSIYA in Russian 16 Sep 79 p 2

[Text] Ivan Dmitriyevich Karpushin had to make a complaint. He lives in the country, worked previously on the Morshnevskiy Sovkhoz earlier and his wife and daughter are invalids of the second group. The family's income is directed connected with the cow on his personal farmstead. When Ivan Dmitreyevich worked on a farm, the leaders of the farm helped animal breeders to maintain personal cattle because every pair of working hands was valuable. They decided, what use does the farm have for a pensioner? In a word, the situation changed and Karpushin began to think about selling his cow since it was difficult to get feed for it.

The recent dry summer put Karpushin and other residents of Tarakanovki into a very complicated situation. It is true, that there was a rumor that the sovkhoz allocated .15 hectares of hay for subsidiary farms belonging to pensioners. It was not much but just the same, the farmstead is not small. Ivan Dmitriyevich was happy. And here he looked closer and on the side was a bit of forgotten hay which he cut and transferred to the farmstead.

However he was punished unexpectedly. On the advice of the director of the department, pensioner Karpushin was excluded from the list for receiving hay allotments. He even ordered to take away the procured hay as though it was mowed illegally. Karpushin, understandably, was embarrassed. He was convinced of his mistake and he finally was left alone but the allotment was not reinstated.

The complaint remained without action approximately one month in the agricultural administration of the Kurskaya Oblast Executive Committee where it had been sent from the ministry for action. Is this not an example of an apathetic relationship to the needs of the people?

Now let us take the economic side of this. In the Fatezhskiy Rayon, for example, recently the number of cows on personal farm plots belonging to the workers was reduced by 553 head. In other words, a large farm was lost.

Other tendencies of this story are, in this fact, "objective" motifs. Young people, they say, does not want to take care of the cows and value free time. While the elderly do not need much...in general, this is the tendency.

If I may say, a similar theoretical "conception" is being developed in the agricultural administration of the Kurskaya Oblast Executive Committee also. For several years, the rural farmsteads of the oblast have seen a reduction in cows numbering 11,000. This decline is occurring in all rayons. Why? The main reason for this is the problem of providing feed has not been totally solved. And in the oblast there are many kolkhozes and sovkhozes which are only about half satisfied in them by public animal husbandry.

How strange that the harvests at the fertile Chernozem lands are poor and the losses are great. Here is one example. In the Medvenskiy Kolkhoz imeni Karl Marx quite a bit of coarse feed disappeared even though there is a sharp shortage of them. Slowly and with great losses the corn is being harvested. The beet tops of sugar beets look like they will not be handled. No one is taking personal responsibility for storing feed.

Should one be surprised that animal husbandry is going down? Due to a lack of feed now, several hundreds of head of cattle, swine and sheep have declined. There were 367 light-weight animals killed for meat; at least for the winter there were fewer head. But the feed is perishing. Who is to be concerned about the needs of rural residents who have their own land if there is not the appropriate concern shown by the national economy?

This means that the residents of the Kurskiy villages refuse cattle not because of a loss of desire for the accustomed everyday life. The situation creates it. And each time, it is the same drama as in the case with Karpushin who turned to the Ministry of Agriculture with his letter.

Life refutes the groundlessness of the assertion that the rural young people are avoiding caring for private farms. They simply want to have a guarantee and not depend on "maybe" and "somehow." If they are assisted well in organizing private farms, they will take root and the young people will start gardens, vegetable gardens and raise cattle.

Besides, there are many examples of this in the neighboring Belgorodskaya Oblast.

"We are counting a great deal on the land in the private farmsteads," underscored chairman of the Kolkhoz imeni 22nd Party Congress of the Belgorodskiy Rayon G. N. Skrynnik.

The secrets are simple but effective. A system is operating in the kolkhoz which stimulates having farmsteads. Agreements have been made with milk suppliers, and encouraging scale for supplying various feeds has been provided even for silage, construction material was allocated and delivered and prizes given. The initiative was spread throughout the rayon. The leaders of production subdivisions became materially interested in developing subsidiary farm plots. Labor veterans and newlyweds were offered the possibility to buy young cattle at reduced prices and on credit. Everyone used this readily. The number of people owning cows increased in 400 new farms. Moreover, feed was released generously and other advantages were in operation. It was advantageous to all inhabitants of the village, for the national economy and for the state.

Everywhere in the Belgorodskaya Oblast they are trying to establish solid guarantees for the development of subsidiary farm plots. Young workers are practicing building rural farmsteads. As a result, the number of cows even in the suburbs where earlier they were not kept, is growing quickly.

This means that all of this can be organized. Why then is everything different in the Kurskaya Oblast?

Development of Subsidiary Farms

Frunze SOVETSKAYA KIRGIZIYA in Russian 28 Jul 79 p 2

[Text] We, the workers of the train depot station of the Pishpek Frunzenskiy department of the railroad received the decision of the party and government concerning the further development of personal subsidiary farms, collective gardening and vegetable gardening with great satisfaction. And when in fact they begin to compose lists of those desiring to buy chicks and small pigs as well as sign up into the society for gardeners and vegetable gardeners, it was not necessary to convince anyone. But, alas, the matter did not go farther than the list. Why did no one explain it to us. We would like to know how this problem is being solved in our republic and what is being done in order to develop personal subsidiary farms. V. Darkach, I. Rybalkin, V. Zaveyboroda, N. Maksimov, Ye. Vydrin, N. Zelenpsov, V. Dichenko.

We acquainted the specialists of the Kirgiz SSR Ministry of Agriculture with this letter. This is what they told us.

B. S. Koshoyev, head of the Main Administration of Animal Husbandry:

"Beginning in 1977, the kolkhozes and sovkhozes of the republic which were occupied with raising swine as well as with poultry farms and poultry raising stations regularly have been selling young birds and pigs to the inhabitants. Moreover, with each year the number sold increases. For example, while two years ago 33,000 head of swine and 8.6 million chicks were sold by private farms, this year the population will purchase 3,000 swine and 2.5 million chicks more.

The kolkhozes and sovkhozes are selling young animals in all rayons, oblasts and cities of the republic as well as in Frunze. Here under the annual plan of selling 3,700 pigs and 600,000 chicks to the population, has been realized by one-half already during the first half of the year. There are occasions when the enterprises and organizations do not have time to acquire young animals for their workers. In these cases we always try to help, of course, with the assistance of the rayon executive committee and farms. Thus, if the train depot workers were unable to acquire chicks or pigs during the first half of the year, it is not too late to do it yet.

But in buying cattle or poultry, people naturally think: what are they to be fed with. Feed is allocated to enterprises and organizations although for now it is done so in inadequate amounts. Thus, for the third quarter the Ministry of Procurement allocated 10,000 tons of concentrated feeds for sale to the population.

Besides this, kolkhozes and sovkhozes allocate to their workers for their own personal cattle pasture land and hay, they sell them grain, straw and concentrates. During the summer, each machine operator receives up to six quintals of grain. All of this is done in order to develop private subsidiary farms."

L. A. Gel'frikh, chief engineer of the Administration for Land Use and Land Use Measures:

"The organization of new societies of farmers and vegetable growers is connected with allocating land first of all. Now on the territory of kolkhozes and sovkhozes of the republic, there is practically no free land. Even those having plots use them for cattle grazing. Nevertheless, we are trying to solve this problem.

Today approximately 400 hectares are used for collective gardens and over 670 hectares for vegetable gardens. In order to increase these areas, the Kirgizgiprozem Planning Institute is doing a great deal of work on revealing the fields and crop pastures which are not being used by the farms. In particular, they are now studying the question of allocating for these goals the land in the flood land of the Chu River. These poor pastures and lands the overall of which comprises approximately 2,000 hectares, will be allocated for subsidiary farms to enterprises and organizations and part of them is a possible reserve for distributing collective vegetable gardens and particularly gardens.

Similar work is being done in other rayons and oblasts of the republic.

The workers of oblast and rayon executive committees know their farming resources well. Therefore the enterprises and organizations which are planning to create societies of gardeners and vegetable gardeners including the Frunze railroad department where the authors of the letter work, must first of all turn to the executive committees of the Soviet of peoples' deputies on whose land the plots are located which are intended for subsidiary plots. Together with them all problems must be solved.

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VALUE OF SOYBEAN AS FODDER CROP EMPHASIZED

Moscow SEL'SKAYA ZHIZN' in Russian 10 Oct 79 p 2

[Article by Agronomist N. Osychkin: "Soybean: Industrial Production Techniques"]

[Text] The production of fodder and varied and high-quality fodder has a decisive part to play in the further upsurge of all branches of animal husbandry. It is a question not merely of an increase in fodder stocks, but of the transition of its production to progressive techniques, the creation of a fodder-production industry and the utmost intensification of this most important sector.

Paramount significance here is attached to a solution of the problem of fodder protein. It is precisely the shortage of protein which is now over 2 million tons countrywide, which is holding back an increase in the productiveness of the animals. There is a tremendous overexpenditure of fodder on account of the shortage of protein in the rations. The sowings of leguminous and oil-producing crops, alfalfa, clover and rape are being expanded to eliminate the protein shortage on the kolkhozes and sovkhozes. Specialized farms for the production of perennial grass seeds are being organized. The mixed-feed and microbiological industries are building up their capacities.

A Storehouse of Protein

Soybean--a crop with great possibilities for sharply increasing the rations' protein content--is of particular significance in feed production. For the purpose of a further increase in soybean production in our country the CPSU Central Committee and USSR Council of Ministers adopted a special decree in 1977. Speaking of this decree at the CPSU Central Committee July (1978) Plenum, Comrade L. I. Brezhnev emphasized: "We regard it as the first step in the organization of the widespread production of this most valuable crop. It is necessary to seek out possibilities for expanding sowings of it, particularly on irrigable areas, and to improve cultivation techniques."

Indeed, soybean is attracting tremendous attention in our country and throughout the world. Numerous studies of scientists have shown that of all protein of vegetable origin, soybean protein is of particular value. The soybean grain contains 18-22 percent oil, 35-45 percent high-quality protein and many vitamins, enzymes, carbohydrates and indispensable amino acids. Thanks to this, soybean protein is on a par with proteins of animal origin in its chemical composition. Compared with these it is also the cheapest. It is sufficient to say that, as the experience of Krymskaya Oblast shows, the sale of the oil alone obtained from the soybean fully reimburses expenditure on the cultivation of this crop on the farms.

The following data are also significant. One ton of soybean seeds can considerably improve the quality of 10 tons of mixed feed and render it more nutritious and balanced in protein and amino acids. There is a considerable increase in the yield from the application of this mixed feed as a result.

The interests of agriculture's intensification demand an accelerated increase in soybean production in the country. It is currently being cultivated on 853,000 hectares, mainly in Amurskaya Oblast and Khabarovskiy and Primorskiy krays. The area of the sowings is as yet negligible, and the yield is low. As a result of the production volumes of the valuable protein crop also lag behind the economy's requirements. For this reason an expansion of the sowings and a growth in the yield of soybean are currently urgent tasks. It is planned in the next few years to raise the gross soybean harvest in the country to 2 million tons and, in the longer term, to 4-5 million tons.

Besides regions of the Far East, the CPSU Central Committee and USSR Council of Ministers decree deemed it necessary to increase the areas sown to soybean in the RSFSR, the Ukraine, Kazakhstan, Georgia, Azerbaijan and Moldavia.

As yet only the first steps have been taken in the intensification of soybean growing. The sown areas have been increased somewhat, seed production is being organized, and the farms have begun to receive more herbicides. The construction of large-scale state irrigation systems is affording a real possibility for organizing soybean cultivation on irrigated land on a large scale and making irrigated land the main production base for this valuable crop.

The feasibility of this goal is corroborated by numerous data of scientific establishments and the practice of progressive kolkhozes and sovkhozes. According to information of the Ukrainian Scientific Research Institute of Irrigable Farming over 10 years, on average the soybean yield in the dark-chestnut soil of the southern steppe of the Ukrainian SSR amounted to 25-29 quintals per hectare, and 7-12 quintals without irrigation. Studies by the Volzhskiy Scientific Research Institute of Hydraulic Engineering and Reclamation have determined that the soybean harvest under irrigation at experimental soil-improvement stations of the Volga area amounted to 20.1-30.1 quintals. Some 25-30 quintals of soybean per hectare--1.5 times more than on unirrigated land--was harvested in the steppe zones of the North Caucasus.

Many kolkhozes and sovkhozes of Krymskaya Oblast's Krasnogvardeyskiy Rayon have achieved excellent results in soybean production. In 5 years here the areas sown to this crop have increased from 352 to 2,000 hectares, and the yield has risen from 13.7 to 22 quintals. The rayon's farms have become a kind of laboratory for the introduction of advanced methods of soybean cultivation. It was not fortuitous, therefore, that Krasnogvardeyskiy Rayon was chosen as the venue of an all-union seminar on industrial techniques of soybean cultivation held on the "Druzhba narodov" and "Rossiya" kolkhozes.

Representatives of republic, kray and oblast organizations and kolkhoz and sovkhoz scientists, specialists and managers participated in the seminar. Reports on the introduction of progressive techniques and measures to considerably increase soybean production in the country were delivered by A. A. Gol'tsov, deputy USSR minister of agriculture; V. L. Semenchuk, first deputy chairman of the Krymskiy Oblispolkom; V. I. Il'in, secretary of the Krasnogvardeyskiy Raykom; V. I. Zaveryukhin, chief of a laboratory of the Ukrainian Scientific Research Institute of Irrigable Farming; Ye. V. Yeroshenko, chief agronomist of the "Druzhba narodov" Kolkhoz; V. I. Krivorotov, chairman of Krymskaya Oblast's "Rossiya" Kolkhoz; N. M. Batokhin, director of Krasnodarskiy Kray's "Ladozhskiy" Sovkhoz; M. N. Grigorenko, deputy chief of the Chernovitskaya Oblast Agricultural Administration; and others.

All the speakers spoke of the exceptional importance of the speediest solution of the protein problem in the country's fodder production, the introduction of comprehensive mechanization in soybean growing, the organization of seed work and an increase in the gross harvests and the safe storage of soybean grain. The seminar participants viewed with great interest the soybean plantations of the "Druzhba narodov" and "Rossiya" kolkhozes and familiarized themselves with the batch of machinery for soybean cultivation.

The soybean plantations under irrigation on the "Druzhba narodov" Kolkhoz shine with the gold of ripening pods. There are now more than 700 hectares of them. In some sections the harvest is already in, in others it has only just ripened. Here we have tracts where the "Kirovogradskaya-4," "Merit," "Amsoy" and "Chippawa" soybean varieties are growing. Each of them prompts a lively discussion. The specialists from Georgia crush the pods in the palms of their hands and compare the size of the seeds. The farm agronomists describe the particular features of each variety, the equipment, the techniques and the yield and answer questions.

A strain-testing section is now in its second year of operation on the kolkhoz. Some 23 varieties of Soviet, American and Romanian selection centers are on display here. We pass by an allotment marked out with little stakes with labels. Here we have the "Hudson," "Clay," "Evans," Steel," "Korsoy" and "Bison" varieties--newcomers from America. "Bison" is productive, but late-ripening. "Hudson" is distinguished by its big grain. Our "Belosnezhka" and "Iskra" varieties, which ripen in August, are outstanding for breeding. "Naddnepryanskaya" provides more than 35 quintals of grain per hectare. Its plants have enhanced resistance and do not lodge. Strain "908/71," which has been cultivated in the Ukrainian Scientific Research Institute of Irrigable Farming and which has not yet been given a name by the breeders, is promising. The sowings of it were harvested on 22 August, and 30.2 quintals of beans per hectare were gathered in.

"This year the average yield on our kolkhoz," Chief Agronomist Ye. V. Yershenko reported, "constitutes 26 quintals per hectare, while individual varieties are providing more than 30 quintals."

Cereal crops are the soybean predecessors on the "Druzhba narodov" Kolkhoz, as a rule. At the same time the soybean leaves behind it nutrients in the soil equivalent to 15-20 tons of manure per hectare. It is an excellent predecessor of winter wheat. The addition to the harvest amounts to 10 quintals of grain per hectare compared with a corn predecessor.

What is soybean doing for the farm?

"Primarily," Kolkhoz Chairman I. A. Yegudin, hero of socialist labor, said, "we are eliminating the shortage of protein in fodder rations, which is contributing to a steep increase in animal productiveness. Thus, last year we produced 16,000 tons of milk, or 1,110 quintals per 100 hectares of farm land and 9,800 tons of meat or 690 quintals per 100 hectares of farm land. We are convinced that a ton of soybean represents a ton of meat on the same production areas without any additional expenditure."

Hero of Socialist Labor V. I. Krivorotov, chairman of the neighboring "Rossiya" Kolkhoz, also evaluates the remarkable crop in the same way. Soybean is cultivated here on 250 hectares in main plantings and on 250 hectares in post-mowing plantings. Some 61-67 quintals of fodder units are obtained here per hectare of fodder crops. The amount of protein per kilo of fodder units is 107 grams. And this is all due to soybean.

The "Druzhba narodov" and "Rossiya" kolkhozes are wealthy, highly profitable farms. Last year the monetary income in the first of them amounted to R46 million, and to R25 million in the other. The farms undertake production, housing and cultural-social construction on a modern basis.

The "Ladozhskiy" Sovkhoz is a major livestock-raising farm in Kuban'. And here also the problem of fodder quality has been solved thanks to the soybean. In the period 1971-1975 it cultivated soybeans in sections without herbicides and obtained an average of 11-12 quintals of grain per hectare. The treflan made its appearance, and the harvest immediately rose to 22-24 quintals over an area of more than 500 hectares. Irrigation also plays a big part. Drought conditions have, as is known, now developed in Kuban'.

In this connection the soybean harvest on unirrigated land constitutes up to 12 quintals per hectare. Irrigated land yields 27 quintals. The average soybean yield is 19 quintals per hectare.

"Is this good or bad"? Hero of Socialist Labor N. M. Batokhin, director of the sovkhoz, questions and provides the answer. "I believe it is good, for from a hectare of soybeans we obtain 550 kilos of protein and 41 kilos of lysine. But what does barley give us? Its yield is good--48.7 quintals per hectare. But from this quantity of barley we obtain only 390 kilos of protein and only 21 kilos of lysine. But, if it is considered that providing rations with lysine reduces overall fodder expenditure by 20 percent, a hectare of soybean with a yield of 19 quintals is equal to a barley yield of 83 quintals. And if corn is used for comparison, the gap is even bigger.

Many farms of Chernovitskaya Oblast have correctly gambled on soybeans in seeking paths to eliminate the shortage of protein in the fodder. Last year the Kolkhoz imeni Suvorov had a sown area of 200 hectares and harvested 19 quintals on unirrigated land. Soybean crops in the oblast have now been expanded to 6,600 hectares.

Available to All

Currently a principal task of kolkhoz and sovkhoz leaders and agricultural organ and scientific establishment specialists is the creation and perfection of industrial techniques for soybean cultivation enabling us to obtain annually high yields and gross harvests of this crop.

Progressive agrotechnics and soybean-cultivation technology have been developed by the Ukrainian Scientific Research Institute of Irrigable Farming (Kherson) and other scientific establishments. V. I. Zaveryukhin, chief of a laboratory of the Ukrainian Scientific Research Institute of Irrigable Farming, described at the seminar what they represent and their economic efficiency.

The agrotechnical process in the soybean field begins with the basic tilling of the soil. Initially there is a shallow second plowing or twofold surface plowing. Then mineral fertilizers are applied, and deep plowing--25-27 centimeters--takes place. This strengthens the growth and development of the plants, contributes to the better work of the nodule bacteria and raises the grain yield to 6 quintals per hectare. An obligatory process is the leveling of the field, which is essential for insuring the even raking in of the seeds, the more effective action of the herbicides and good-quality harvesting. The leveling is performed by P-4 or PA-3 graders, which are hitched to tractors of the appropriate capacity.

In regions which suffer from erosion good results are obtained from flat-blade tilling consisting of two-three shallow cultivations (10-12 centimeters) and deep moldboard-less hoeing to 25-30 centimeters. If the areas are choked with weed shoots, tilling layers is performed with the application of the herbicide 2.4D, and then the fall-plowing is carried out.

Soybean is relatively particular about the availability of nutrients in the soil. It is particularly responsive to the application of phosphorus fertilizers under the basic plowing and to nitrogen fertilizers during the spring tilling. The local application of ammophos or other granulated fertilizers simultaneously with the sowing makes for an impressive increase. Doses of nitrogen of 40-60 kilos of active substance per hectare and 60-90 kilos of phosphorus are effective. Excessive enthusiasm for nitrogen frequently leads to the lodging of the plants and a reduction in yield. A top dressing is applied to them in the event of two few tubercles being discovered on the roots of the plants in the two-five left phase. Treatment of the soybean seeds with dry and soil nitragin promotes an increase in the soybean yield of 3-5 and more quintals per hectare.

The presowing preparation of the soil envisages mulching, subsoiling and leveling, the application of herbicides and cultivation of the field. Intermediate tilling is omitted when there has been good preparation of the field. Considering the great weediness of the irrigable sections, it is very important to apply highly effective herbicides. The best, according to data of the Ukrainian Scientific Research Institute of Irrigable Farming, is treflan in a dose of 1.2-1.5 kilos of active substance per hectare and also its domestic analogs--nitran and nitrofor. Senkor applied on the basis of 0.3-0.5 kilos per hectare produces good results against broad-leaf weeds. An essential condition of the effective action of herbicides is their immediate raking in in the soil by disk implements to a depth of 5-7 centimeters. Water solutions of preparations are applied with the help of the GAN-15 and POU boom sprayers.

The level of the yield and gross harvests of soybean depends on the correct choice of strain. The following tested strains are recommended for the Ukraine: the medium-early "Khersonskaya-1" and "Kirovogradskaya-4," the middle-ripening "VNIIMK-9186" and "Khersonskaya-8" and the medium-late "Kirovogradskaya-3." Of the early varieties, the following merit attention: "Kiyevskaya-48," "Terezinskaya-24," "Terezinskaya-2," "Kel'menetskaya-2" and "Chernovitskaya-2." In Moldavia good yields are given by "Bel'tsyaya-25" and "Bukuriya"; in North Caucasus by "VNIIMK-1," "VNIIMK-9186," "VNIIMK-6," "Komsomolka" and "Rannyaya-10"; in the central Volga region by "Severnaya-4," "VNIIMK-1," "Terezinskaya," "Yantarnaya," "Kirovogradskaya-4" and "Dneprovskaya-12"; and in the lower Volga egion by "VNIIMK-9186," "Khersonskaya-1," and "Kirovogradskaya-4." In addition to the above, the best foreign varieties such as the early-ripening "Merit," the middle-ripening "Hudson" and "Chippewa," the medium-late "Flora" and the late "Amsoy" can be recommended. The farms should, as a rule, cultivate two-three varieties with differing vegetation periods.

Soybean seeds begin to germinate when the temperature at the depth to whidh they have been raked is 10 degrees, but this process proceeds more intensively with a temperature of 12-15 degrees. These conditions usually prevail in the south at the end of April, start of May. Observance of the best sowing times insures, as a rule, the biggest harvests. For the low-growing early-ripening varieties the best width for row spacing is 45 cm, 60 cm for the middle-ripening varieties and 70 cm for the high-growing medium-late and late-ripening varieties. The 55 X 15 cm layout merits attention.

It is possible to sow soybean with various seeders. The SPCh-6 fitted with disks with 48 to 68 holes insure an even line. The speed of the unit is no more than 3 kilometers an hour. The SKON-4.2 vegetable seeder can sift the soybean with the simultaneous application of granulated fertilizer. It is connected to the T-40, T-40A and "Belarus'" tractors. The SST-12A, SST-8 and 2STSN-6A sugar beet sowing machines, which are fitted with the STYa-31000 attachment for sifting the soybean, can also be used. The attachment includes sifting disks, rubber roller-scrapers, pushers and extension arms for the seed bins. Production of the special SZSSh-3.6 grain-fertilizer soybean seeders will begin in 1979.

The American "Kinze" seeder has produced good results in tests on the farms of Krasnogvardeyskiy Rayon. It is a 16-row unit with a row spacing of 70-76.2 centimeters and an operating width of 12 meters. It operates at a speed of 10 kilometers an hour and can sow 100-120 hectares in a working day. The seeder combines the sowing and herbicide- and fertilizer-application operations and insures work of a high quality.

The optimum seeding norm for early and medium-early varieties is 600,000-700,000, for middle-ripening 500,000-600,000 and for late-ripening 400,000-500,000 germinating seeds per hectare. The depth to which they are raked fluctuates between 4 and 6 centimeters, depending on the type of soil, time of the sowing and size of the seeds.

Work on tending the sowings depends on many factors. If herbicides have not been used, presprouting and postsprouting harrowing is mandatory. The soybean plants suffer the least damage in the one-three tripartite leaf phase. The tilling is performed by wide-span units with the SG-21 hitch with light and medium harrows at reduced speed at the time of the plants' lowest turgor.

Cultivation is carried out as soon as the rows begin to show. The first to a depth of 5-6 centimeters, the second to 8-10 centimeters and the third, when necessary, to 7-8 centimeters. The KRN-4.2 or USMK-5.4 cultivators with the KRN-29 protective covers and also weeders are used.

Soybean is a plant which is quite sensitive to water. In the vegetation period the leaf surface of the middle-ripening varieties vaporizes 600 millimeters of moisture per hectare. This is why the farms of the south of the Ukraine and other places obtain the biggest harvests—up to 30-35 quintals per hectare—under irrigation. Depending on weather conditions, four-five vegetative waterings are performed with a norm of 400-600 cubic meters per hectare. Overhead irrigation with the DDA-100M, "Fregat," "Dnept" and "Volzhanka"units is the principal method of irrigation.

As soon as the leaves begin to fall, the stems begin to dry up and the beans begin to russet. This means that the soybean has ripened and that it is harvesting time. The moisture content of the grain at this time should not exceed 14 percent. The harvesting is performed by the single-phase method by SK-4 and SK-5 combines. In order to prevent losses the speed of the units is reduced to 3-4 kilometers per hour, and they are set at low cut.

The postharvest treatment of the seeds is performed on flow lines fitted with grain-cleaning machinery for preliminary cleaning (the OVP-20 and ZVS-10) and sorters (the SM-4, OS-4.5 and others). The KZS-20 and KZS-40 grain-cleaning units with the SPL-5 and SP-10 seed-cleaning attachments are also used. Soybean seeds are stored with the humidity being no more than 14 percent.

The post-mowing sowing of soybeans after the harvesting of the winter crops for soiling food are of great interest. There are a number of particular features in the techniques of its cultivation. Primarily, the limited amount of time demands that all work be performed as quickly as possible.

While studying progressive techniques of soybean cultivation, the seminar participants familiarized themselves with the complex of domestic and American machines being employed experimentally on the Crimean "Rossiya" and "Druzhba narodov" kolkhozes and Kuban''s "Ladozhskiy" Sovkhoz. In the opinion of the Soviet specialists and also the leaders of the above farms, the equipment on display is distinguished by its high productivity and can perform all soybean-cultivation operations with high quality.

Requiring Solution

The interests of a considerable increase in soybean production in accordance with industrial techniques require the solution of a number of urgent questions. A special place here is occupied by problems of selection work and seed breeding. It is essential to complete more rapidly the specialization and concentration of seed production and to create a dependable network of seed-breeding farms in order that they may more fully satisfy the kolkhozes' and sovkhozes' need for high-quality sowing material. The scientific research establishments and the training-experimental farms of the agricultural VUZ's are not yet cultivating sufficient highly productive strains for different zones of the country and are not providing the specialized farms with elite and first-reproduction seeds in sufficient quantity. Even in Krymskaya Oblast, which has accumulated experience of soybean cultivation, only one variety--"Kirovogradskaya-4"--has actually been zoned, although there is a considerable quantity of them in the collection. The strain's path from the selection worker to mass production is too long! The originators are themselves called upon to multiply promising varieties and open up their road to the farms' fields more speedily.

Expansion of the sown areas is frequently held back by a shortage of herbicides and fertilizers. The Ministry of the Chemical Industry is charged with accelerating the construction and commissioning of facilities for the production of preparations for fighting weeds such as linuron and treflan. It is also important to increase the production of nitragin, which considerably augments the grain yield. At the same time it was emphasized at the seminar that the farms setting about soybean cultivation in all seriousness and including it in their plans and expanding the sown areas will be provided with herbicides and plant-protection agents in the necessary amounts.

As the experience of the progressive kolkhozes and sovkhozes shows, success in the soybean fields can be achieved with the help of available domestic equipment. But for this it is necessary to modernize certain types of machinery and create specialized units from them. Only amalgamated technical facilities are capable of insuring the proper preparation of the soil and the thorough sowing and harvesting. Unfortunately, it is not currently possible to level the soil properly because there is a lack of graders. The soybean growers are awaiting an effective, American-type rotary hoe and a highly productive automatic seeder. The combine builders must provide for a change in the design of the harvester's cutting gear and also for auxiliary cleaning and the installation of ventilation in the unloading screw conveyor.

Now, when, together with the Far East, broad prospects are being revealed for soybean growing in the European part of the country, in the Transcaucasus and in the south of Kazakhstan, it is important to immediately begin cultivation of this protein crop not by the primitive method, but in accordance with modern techniques. Their essence, as can be seen from what has been said above, amounts to the comprehensive application of modern highly productive machinery and implements, productive strains, full doses of fertilizer, effective herbicides and other plant-protection agents and the clear-cut organization of labor in the performance of all production operations. The question of an increase in the responsibility of the kolkhoz and sovkhoz leaders for the cultivation of soybean and other protein crops was rightly raised in this connection at the seminar. Their activity should be evaluated not only by the total amount of plant-growing products obtained, but also by their quality. Knowing how much protein, lysine, methionine, tryptophan and other substances there is in a quintal of this grain or the other or green bulk is absolutely not a matter for indifference. The fullness of fodder rations for animals and the growth of meat, milk and egg production ultimately depend precisely on these.

Soybean should rightly be assigned a leading role in the struggle for full-value fodder.

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BRIEFS

POTATO BLIGHT RETREATS--Leningrad--This year has been a difficult one for the Leningrad potato growers. The damp weather which prevailed during the second half of the summer resulted in the mass development of potato blight. Even such tested potato varieties as Gatchinskiy and Detskosel'skiy did not stand up so very well against it. The picture was entirely different at the training farm of the Leningrad Agricultural Institute. The same varieties were grown here and yet not one speck of damage was noted. Actually, the institute's scientists are obtaining seed stock from specially allocated healthy potato tissue -- so-called meristematic culture. This promising method is being employed extensively by workers at the institute's recently created Experimental Station for Potato Selection and Seed Production. This year's harvest has already furnished 18 tons of high quality disease-resistant potato seed for reproduction use out on the fields of the training farm. During the next few years, the station will produce up to 800 tons of super stock potato seed, which will serve as the foundation for the mass production of healthy planting stock. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 31 Oct 79 p 3] 7026

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